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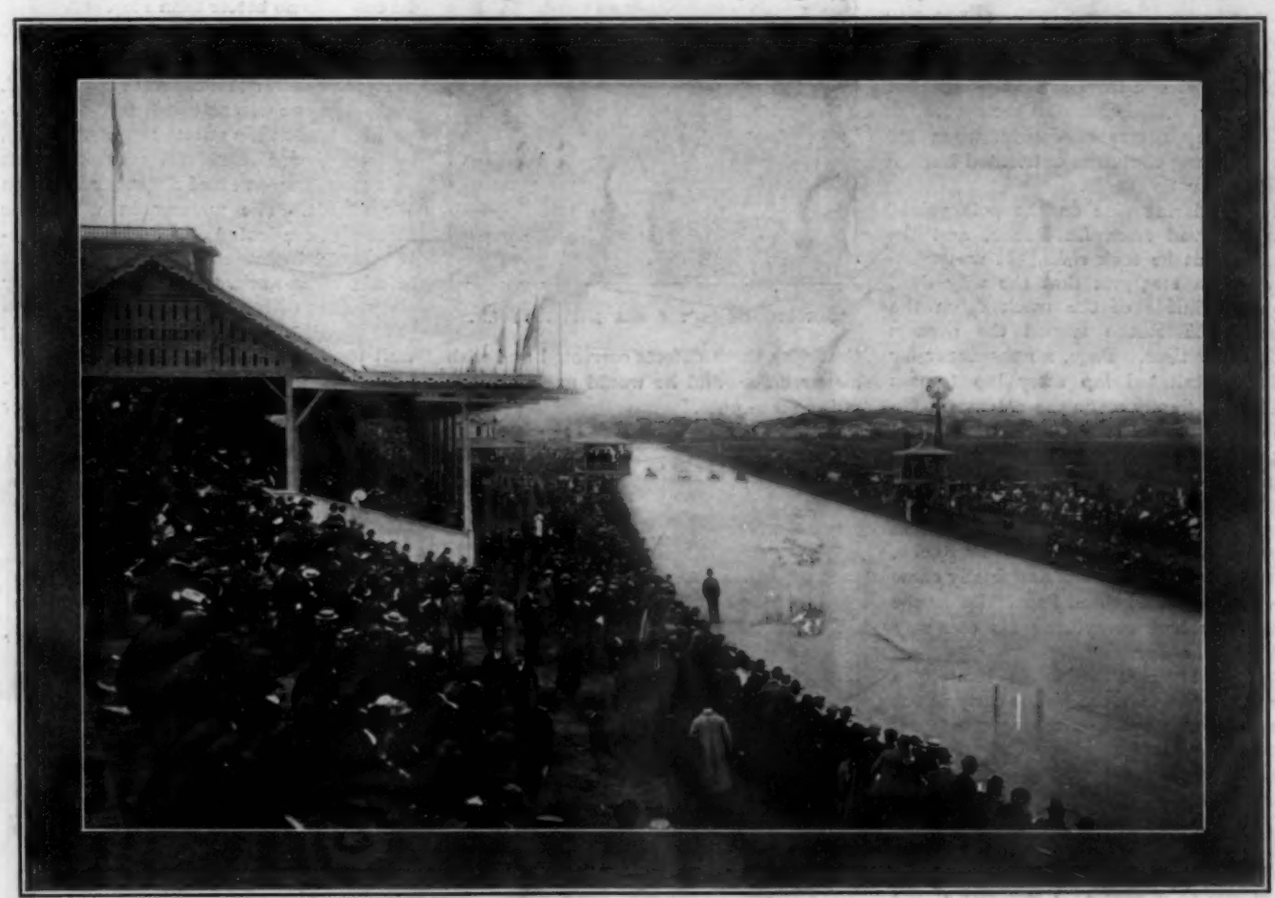
Perfect Competition at Providence Meet.

Ideal Weather and Track Conditions, Record Breaking Attendance, Close Racing, No Accidents and Excellent Management Result in Best Sport of the Year.

PROVIDENCE, Sept. 19.—Automobile racing is now an assured success. Three events of to-day's card of ten events at the annual meet of the Rhode Island Automobile Club, on the famous Narragansett Park track, were fast, close and in doubt right up to the finish. Superb racing was seen to-day, and to-night every one in Providence is talking about the glorious sport. Those who did not go wish they had attended and the 7,500 people who were present have jotted down September 19, 1903, as marking an era in the history of good, clean sport. Those lamentable accidents which marred the recent Western meets were neither repeated nor recalled to mind. The day was without an accident of any sort. It was ideal racing on a perfect day in every way—balmy and without wind.

Oldfield, Cooper and Sincholle were absent, but they were hardly missed. Many would have liked to see Oldfield perform as only the daring Ohioan can, but with Henri Page in his Decauville, Charles Schmidt in the Packard "Gray Wolf," and F. A. La Roche in the red



THE CROWDED GRANDSTAND AND BLEACHERS AND CLEAR TRACK AT THE PROVIDENCE MEET, SEPTEMBER 19.

CANNON'S NEW STEAM RACER—GEORGE CANNON IN RIGHT HAND SEAT

" Darracq," the promoters had men and cars as evenly matched as could be, and races such as aroused the populace to intense enthusiasm.

Page the Hero of the Day.

Three-cornered battles were fought again and again, and it was Page, in the Decauville, who finally gained the honors by victories in the final of the five-mile open and the ten-mile open. Page also placed to his credit the fastest mile (1:03 3-5), the fastest five miles (5:28 4-5), and one lucky escape from a tight place that brought cries of dread from the spectators followed by cheers of delight when the daring young chauffeur extricated himself safely from the tangle.

Page's daring ride on the pole gained him the lead from La Roche, and the victory, but he took risks. It was while traveling a 1:05 gait that the wily Gaul took the inside of the track down the stretch. La Roche turned the corners wide every time. Page, a non-winner for so long, hesitated lap after lap to pass inside, but finally made the attempt. On the lower turn he held his front wheels to the grass on the pole and his rear wheels swung at almost right angles to the track. While almost "turning turtle," Page twisted his body suddenly and in some way escaped an accident. La Roche, on the outside, swung out and finally came down to the pole behind Page. La Roche apparently had everything his own way earlier in the day.

Smiling Henri Page made himself a warm favorite with the public early in the afternoon and every encouragement was given him. Prolonged applause and a vigorous tooting of horns met him at every finish. Had the public known that the favorite was riding with the water-jacket of the four cylinders of his engine cracked and in fear of the stopping of a wheel due to a bent axle received at the Cleveland meet, he would have been an even greater favorite. The axle had been hastily repaired. Manager Chisholm wore a worried look just before the races when he found the rear wheel so tightly bound it could not be turned with the hand. Page said at the close of the races

DE ROSCIERS ON HIS METZ 14-H.P.

that with these defects corrected and with a new differential he would negotiate the mile in a minute.

Three Other Prominent Drivers.

Charles Schmidt, who designed the machine himself, drove the Packard "Gray Wolf," notwithstanding the three broken ribs sustained at Cleveland on September 3, and the fact that Harry Cunningham has been signed to drive this fast machine for a year. Schmidt, by his smooth and careful operating of the car, scored a decided hit. La Roche, in the red Darracq, did splendid work but in the ten-mile event, two at least of the cylinders of his car failed to work. Paul Sartoris, chauffeur for Alfred G. Vanderbilt, drove the 40-horsepower Mercedes. Sartoris said that the car was hastily prepared for the races and needed a general overhauling. Beyond a third place in the ten-mile, a mile and a quarter or more back of the winner, the Vanderbilt machine gained nothing.

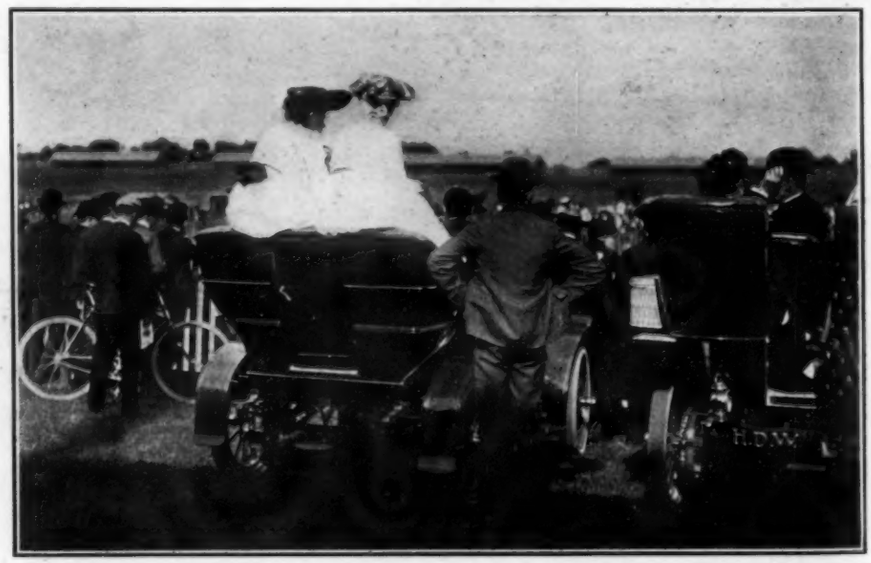
Cannon and His New Steamer.

Outside of these four, interest centered in George C. Cannon, the Harvard student, and his novel steam racing machine. Cannon wanted to lower the mile "steamer" record. He did lower it in practice on Friday, but something went wrong and he could do no better than 1:07.

Good Competition Pleases All.

Records were not broken nor approached, yet every one was satisfied, for good competition more than offsets record-breaking, and there was more real competition at this meet than at all of the other meets on the circuit. The manner in which the meet was conducted also added to the interest and enthusiasm. Everything went off like clock-work, ten events with nearly sixty miles of racing being run off in less than three hours. There was not one long wait between events.

The entry list included names of thirty-three competitors, of whom eleven, for



A GOOD POINT OF VANTAGE.—INTERESTED MOTORIST SPECTATORS VIEWING RACES.

the most part in minor events, failed to appear. The management was particular to present only the attractions advertised.

Society Out in Force.

Society turned out in force to see the races. The lawn in front of the stand had been apportioned along the fences for forty machines. Each space was numbered and each was filled. Probaby 250 automobiles in all were present, each filled with a merry party of well-dressed men and stylishly-gowned women. The Newporters were not present in appreciable numbers. Alfred G. Vanderbilt's touring car was at the track, but Alfred G. did not appear, to the evident disappointment of followers of society. Boston sent down a delegation of more than fifty well-filled cars, all of which made a beeline for Boston after the races. Brockton, Mass., was represented by twenty-two members of its Automobile Club, in their machines. The thirty-six mile run over was made successfully by all. New Yorkers were conspicuous by their absence, an absence due, probably, to the proximity of the New York-Boston and return club tour. Club members could not get away from business at this time.

Track in Good Condition.

The track was in ideal condition, a little dusty after several races had been run, but firm under wheel and altogether admirable for racing. The handsome grounds, well-controlled crowd, and a clear track all the time, combined to make the day memorable in the history of automobile track racing.

The Officials in Charge.

The officials of the day were: Referee, Dr. Julian A. Chase; Judges, H. B. Deming, Harry Fosdick, Col. J. T. Sontter; Timers, Charles Broadbent, Archie H. Harden, Herman A. Morelock, William Suddard; Announcer, Everett B. Bryant; Starter, Lon Peck; Clerk of the Course, Herbert H. Rice.

Rhode Island Club Reception.

The Rhode Island Automobile Club tendered the visitors an informal reception in the evening in its club rooms in the Crown Hotel and a most enjoyable evening was spent, with a quiet little dinner and a few speeches, informal in character, but happy and congratulatory in vein. The gathering was a fitting close to a very pleasant day.

De Rosciers Wins Motor Cycle Race.

The day's racing opened with a five-mile motor cycle race in which machines of all horsepowers and description started. There was the huge 14-horsepower pacing machine of Col. Felix R. Wendelschaefer with Jake De Rosciers up, Oscar Hedstrom with his record-breaking 1 3-4 Indian, Fred Hoyt with another Indian, James Myers with an Orient, and several others. There was one false start and then they went away in an excellent flying start with De Rosciers in the lead. Hoyt (Indian), Myers (Orient), Walter Ziegler (Columbia) and Hedstrom (Indian) followed. The others never figured in the results. At the close of the first mile Hedstrom had gained second place and was but 50 yards behind De Rosciers, while Hoyt held third place safely. Hedstrom took the lead from De Rosciers at 1 1-2 miles and closing the second mile had a lead of 75 yards. A half mile later Hedstrom came to grief. His Indian began missing explosions and De Rosciers gained the lead, never to relinquish it, although hard pressed to the finish.

In the closing mile Myers crawled up to within fifteen yards of De Rosciers, and Hoyt was but five yards back of Myers. The others were hopelessly out of the running. The time was 6:25 2-5, fast time for a dirt track.

Ziegler, on his Columbia, struck a Newfoundland dog on the backstretch. The shock did not throw him, but caused him to slow materially.

The second event, a race for all classes of cars weighing 1,200 pounds or less, brought but two machines to the line. It was a runaway for A. R. Bangs in the Franklin. L. H. Roberts, in an Orient Buckboard, was beaten a full mile and a quarter. The time, 6:25 2-5 was slow, as the Franklin has a record of 5:59. Otto Nestman (Stevens-Duryea) was withdrawn in this race.

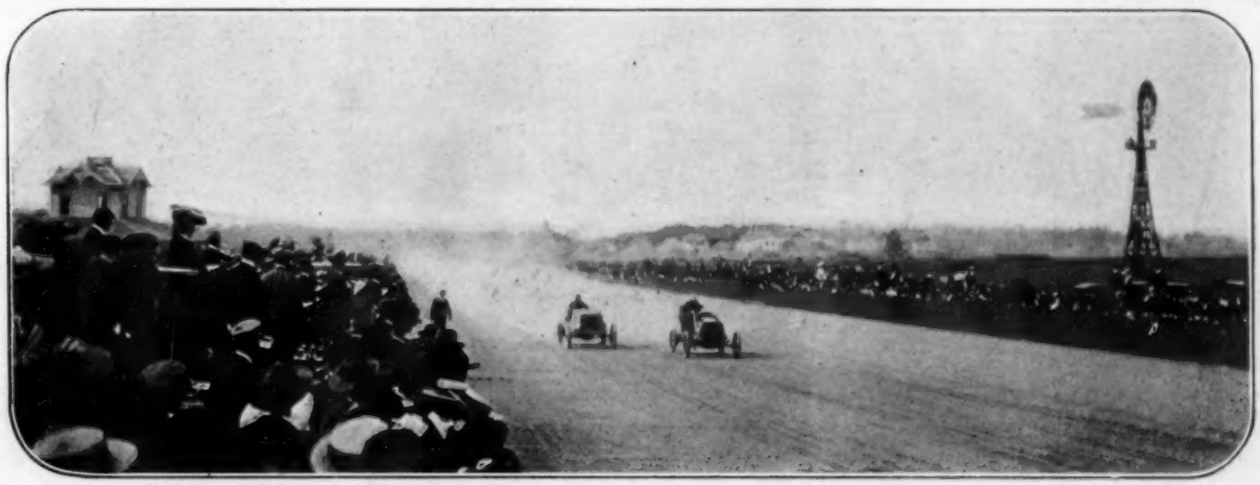
The electric class did not fill, only two starting in the event.

A. J. Feltham, in a Waverley Chelsea, ran away from H. H. Rice by an eighth of a mile, doing the two miles in 4:48 2-5.

There was no noise and the race was dull.

George Cannon's Popular Victory.

The race for steam machines, all classes, brought out six machines. They came down to a pretty flying start the first time. Frank Durbin, in a Stanley, led at the start, with Louis Ross (Stanley) second, and George Cannon (Cannon Racer) back in fifth position. Cannon went out at the quarter-post and at the end of the mile led by ten yards, with H. L. Bowden (Stanley) second and Frank Durbin third. The second mile was hard fought, with positions the same, but the competitors 25 yards apart all around. Durbin tried several times to pass Ross but failed. Cannon won at the finish of the three miles by 25 yards over Ross, and Durbin pressed Ross to within ten yards for second place. The time was 3:49 4-5. Cannon's victory was popular.



LA ROCHE (DARRACQ) AND PAGE (DECAUVILLE) IN A CLOSE RACE IN THE FIVE-MILE OPEN.

La Roche-Page Close Race.

In the five-mile event for all cars of all motive powers under 1,800 pounds, only two of six entrants appeared for the first heat, F. A. La Roche in his 40-horsepower Darracq, and Henri Page in the 40-horsepower Decauville. At a distance of ten yards apart through the first mile, Page chased La Roche. Entering the backstretch La Roche drew away, but Page

closed again. As they came into the homestretch La Roche swung wide and Page seemingly lacked ability to swing in on the pole, and dropped back to the rear. The mile was finished in 1:09 2-5, but was interesting. At the end of another half mile they were side by side, but La Roche drew away again. Entering the stretch Page tried to close and pass on the inside but again failed and they finished the second mile on even terms in 1:05 1-5. The speed and relative positions were maintained through the third mile, but at four miles they were again nose and nose. In the fifth mile, Page sat up and slowed down. The bent axle of his Decauville had heated and one of the tires was looking so threatening that he considered caution the better part of valor. La Roche's time was 5:30.

SCHMIDT RUNS A GOOD RACE.

Six machines lined up for the second heat. Louis Ross (Stanley), Louis Raffalovitch (Renault), George C. Cannon (Cannon), Paul Sartoris (Vanderbilt's Mercedes), Charles Schmidt (Packard "Gray Wolf"), and John L. Snow (Peerless).

The "Wolf" went away in the lead, closely followed by the Vanderbilt machine, Ross, Snow and Cannon, and finished the mile in 1:11 4-5, one hundred yards to the good. Sartoris was in second position. The others were striking out. At two miles Schmidt had made the lead a quarter mile. Time, 1:04 4-5. At the tape, closing the second mile, Cannon passed Snow to third place. The Renault "White Flee" was hopelessly out of the running. The third mile was made in 1:06. The "Gray Wolf" lapped Cannon just at the finish of the fourth mile, covered in 1:06 3-5. In the last mile the "Wolf" won from the Vanderbilt machine by a half mile. Cannon lost his steam apparently, but regained power and came in strong again in third place. The time for the five miles was 5:35 4-5.

For the final Cannon withdrew and four cars and their drivers faced the starter up the stretch. La Roche (Darracq) gained a slight lead at the start with Page (Decauville) second. Sartoris (Mercedes) was third and Schmidt (Packard) was apparently in trouble. At the mile La Roche had 30 yards the lead of Page, who worked his way inside to the pole, skidding frightfully round the turn. His front wheel held the grass while his rear wheels swung away out. La Roche swung wide to avoid Page, who recovered and went into the lead, which he increased gradually to the finish, winning with a smile and waving both hands. La Roche was 100 yards back, but led Schmidt by 200 yards. The time was 5:28 4-5, and the fastest mile 1:04 2-5.

THE SURPRISE OF THE DAY.

The match race brought the surprise of the day. The announcer made particular mention of the records of the drivers, Page, La Roche and Schmidt, crediting each with 1:05, which was practically right.

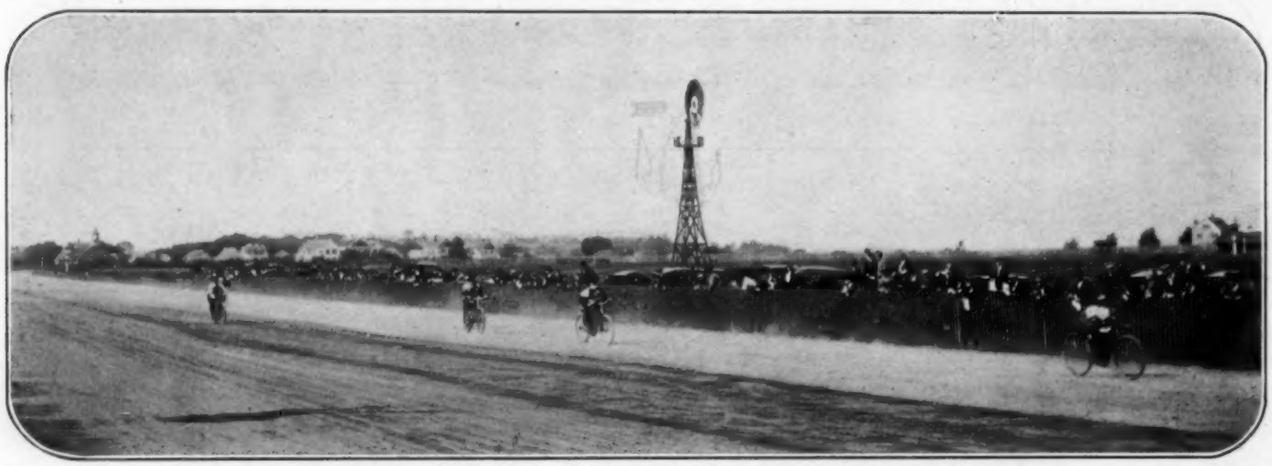
In the start of what was to prove the sensational race of the day, Page jockeyed for and secured a slight lead and the consequent advantage. La Roche and Schmidt flashed over the tape almost side by side. "A pretty start," said every one. At the quarter post La Roche shot by Page, much to the latter's astonishment. At the end of the mile La Roche had the lead by twenty yards, while Schmidt and his "Gray Wolf" struggled to pass Page to second position. In the second mile La Roche seemed to slow and Page came up preceptibly on him while Schmidt pressed Page hard. The race then developed into a neck and neck brush, each motor working like a charm and the race the property of any one man of the struggling trio. La Roche held his slight advantage and won by only a length over Schmidt with Page right in the bunch and beaten by but a length for second. The excitement was made manifest in frequent cheering, applause and blare of horns. The time was 5:32 1-5, and the fastest mile was 1:05 1-5.

A five-mile race open only to Peerless touring cars fitted only for road work was won by H. Emmett Rogers, of Auburndale, by half a mile. P. H. Blanding, of Providence, was second. He was 150 yards ahead of E. Roy Speare, of Boston. The time was 8:18.

PAGE WINS THE TEN-MILE.

The program was closed with a ten-mile race, open to machines of all weights and all motive powers. Six cars started, about as many as the track would accommodate. On the pole was H. L. Bowden, with a Columbia; then came La Roche, with the Darracq; Page (Decauville), Paul Sartoris (Mercedes), Charles Schmidt (Packard), and John L. Snow (Peerless).

There was some maneuvering for position. Page gained the lead, which he never relinquished, winning by 700 yards over the "Gray Wolf," with Vanderbilt's Mercedes third. In this event La Roche was unable to get more than two of the four cylinders of his engine to work. He was hopelessly out of it from the start, but stayed in to the finish.



J. DE ROSCIERS (METZ) WINNING FIVE-MILE MOTOR CYCLE RACE AT PROVIDENCE.

Page's time was 10:48 2-5, an average of less than 1:05 to the mile. The fastest mile was the seventh, done in 1:03 3-5. This was the best mile of the day.

George Cannon, the Harvard student tried for his mile record, but did 1:07 only, nearly five seconds out of the way. The Packard "Gray Wolf" sent for five miles for record did only 5:32, the fastest mile in 1:05 1-5.

THE SUMMARIES.

Motor bicycles, five-miles—Won by Jake De Rosciers (Metz); James Myers (Orient), second; Walter J. Ziegler (Columbia), third; Time, 6:14. Oscar Hedstrom (Indian), Fred Hoyt (Indian), W. H. Bartlaw (Bartlaw), also ran.

Geo. C. Cannon, one mile to beat world's record of 1:02 4-5 (steamer). Time, 1:07.

Gasoline cars, 1,200 pounds and under, five miles—Won by A. R. Bangs (Franklin); L. H. Roberts (Buckboard) second. Time, 6:25 2-5.

Electric Class, two miles—Won by A. J. Feltham (Waverley Chelsea); H. H. Rice (Waverley Surrey), second. Time, 4:48 2-5.

Five-mile exhibition against time—Chas. Schmidt ("the Gray Wolf"). Time, 5:32; fastest mile, 1:05 1-5.

Steam, all weights, three miles—Won by George

Cannon (Cannon); Louis S. Ross (Stanley), second; Frank Durbin (Stanley), third. Time, 3:49 4-5.

All motive powers, under 1,500 pounds, five miles, first heat—Won by Henri Page (Decauville); F. A. La Roche (Darracq), second. Time, 5:30 1-5. Second heat—Won by Charles Schmidt (Packard "Gray Wolf"); Paul Sartoris (Vanderbilt Mercedes), second; George C. Cannon (Cannon), third. Time, 5:35 4-5. Time of fastest mile, 1:04 4-5.

Final heat, five miles, all motive powers, under 1,800 pounds—Won by Henri Page (Decauville); F. A. La Roche (Darracq), second; Charles Schmidt (Packard "Gray Wolf"), third. Time, 5:28 4-5. Fastest mile, 1:04 2-5.

Match race, five miles—Won by F. A. La Roche (Darracq); Charles Schmidt (Packard "Gray Wolf"), second; Henri Page (Decauville), third. Time, 5:32 1-5. Fastest mile, 1:05 1-5.

All weights, all motive powers, ten miles—Won by Henri Page (Decauville); Charles Schmidt (Packard), second; Paul Sartoris (Vanderbilt Mercedes), third. Time, 10:48 2-5. Fastest mile, seventh, 1:03 3-5.

Notes of the Meeting.

Those who scoffed at automobile racing as a contest of machines and not men, left Narragansett Park delighted with the day's sport and praising the ability of the drivers as well as the good qualities of the machines.

Another meeting between Paige, La Roche and Schmidt, at the Empire City track, is assured and another great race is just as certain to result. Such a race as that at Providence, if seen elsewhere, especially in New York, will insure the popularity of automobile racing for a long time to come.

The racing was very uniform in speed. The fastest five miles was 5:28 4-5, made in the final of the five-mile open. The five-mile match race was run in 5:32 1-5; the heats of the open race in 5:35 4-5 and 5:30 1-5, and the ten-mile race in 10:48 2-5, an average of 5:24 1-5 for each five miles.

John R. Chisholm wore "the smile that won't come off." The victories of the Decauville and Page were the cause.

Harlan W. Whipple grew enthusiastic over the speed and the sharp racing and developed a racing spirit. "Just wait until the Florida races," said Mr. Whipple, "and you will see me driving my own 80-horse-power car on the straightaway. I'll never risk a circular track, though."

The forty spaces along the fence fronting the grandstand reserved for autos was filled with cars worth a fortune. Probably $1,000,000 worth of cars were in sight from the grandstand. Many were of the most expensive types, both American and foreign.

What promised to be a tame and uneventful meet proved to be the best meet of the year, all things considered.

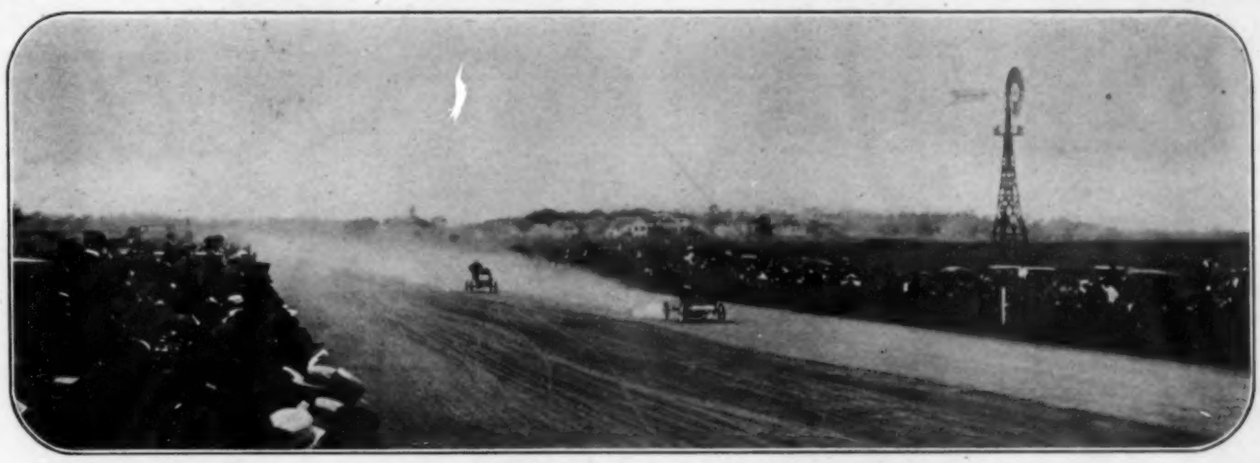
"Lon" Peck, of Boston, known the world over for his skill in starting bicycle races, proved as able a starter in auto races. The cars went away promptly and in excellent formation and all from a flying start.

Albert Champion was offered a liberal inducement to drive for one of the leading makers but asked for more and held out for his figures, it is reported.

The Brockton Automobile Club, twenty-two strong, drove over to the meet, leaving Brockton at 9 o'clock and making the thirty-six mile run in a little less than three hours. In the party were Dr. F. E. Constance, A. H. Brigham, W. H. Marble, Fred Packard, W. H. Trufant, W. H. Cross, O. B. Bray, Chester Estes, George Washburne, Dr. Price, F. F. Pryor, F. F. Field, W. D. Pike, J. W. Ford, William Hurler, F. H. Hannigan, James Spence, W. M. Newt and F. F. Filoon.

Henri Page must return to France in

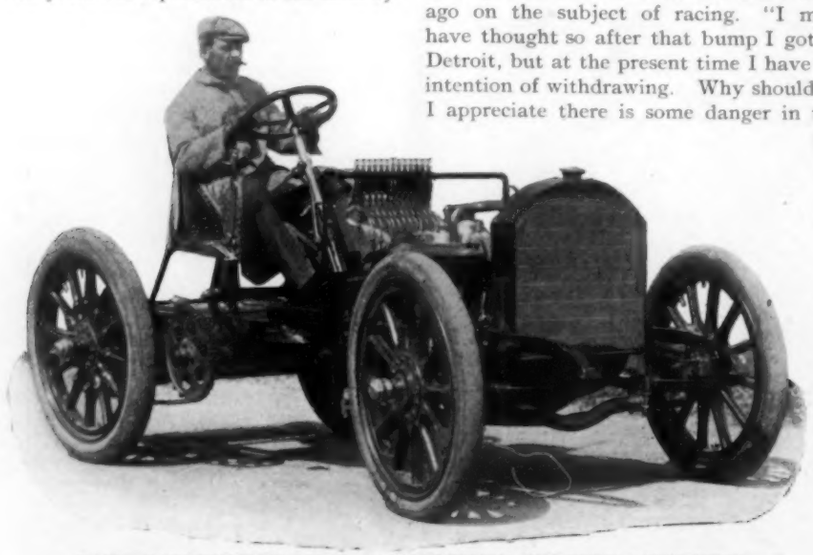
START OF THREE-MILE OPEN FOR STEAM CARS—FIVE STANLEYS AND CANNON'S RACER.



FINISH OF THE THREE-MILE STEAM RACE—GEORGE C. CANNON WINNING IN 3:49 4-5.

November to take up army life for three years. He cannot escape army service and is too loyal to France to try. Page is twenty years old and has been driving automobiles for four years with success.

The press was represented at the meet by several score of writers, most of whom were former writers on cycling topics for years. "We'll all be in the airship game in ten years," said A. G. Batchelder, as he glanced down the line of well-known faces.



PAUL SARTORIES IN A. G. VANDERBILT'S STRIPPED MERCEDES.

As usual, the events were liberally entered and many failed to come to the starting line. Chairman Pardington, of the A. A. A. racing board, has work cut out for him in the future to compel all entrants to face the starter.

George Cannon's father forgave him all discrepancies in his Harvard studies when he found that his boy had ability enough to make a machine capable of a mile in 1:02. Cannon never drives but always rides in the machine, which is driven by a chum.

The Rhode Island Automobile Club scored a financial success on its meet. One of the club committee is authority for the statement. Next year's meet will be upon as liberal a scale.

While there may have been other meets as well conducted it is certain that no meet was ever better conducted than that at Providence. There was nothing to criticize.

Harry Fosdick, the Boston Winton agent, was present but not as a competitor against Kenneth Skinner as was expected. Skinner wanted to race Fosdick at this meet and expected to exploit his new 18-horsepower De Dion car, just imported.

The Newport cottagers did not accept the invitation to run a special race at the meet, as tendered by Alfred Vanderbilt, who had his own Mercedes present.

The prizes aggregated in value more than $900, with a special prize for the match race not named on the card. Henri Page secured $200 of this and in addition third in the match race

OLDFIELD TO CONTINUE RACING AND RIDE AT TOLEDO.

"There is no truth in the story that I am going to retire from racing," said Barney Oldfield in an interview a few days ago on the subject of racing. "I may have thought so after that bump I got at Detroit, but at the present time I have no intention of withdrawing. Why should I? I appreciate there is some danger in the game, but as long as I continue to be successful I shall remain in the game."

Bert Gamble, of Toledo, was in Cleveland last week to confer with Barney Oldfield relative to the possibility of securing his attendance at a meet to be held in Toledo some time next month. The Toledo meet was to have been held immediately following the Detroit meet, but it was called off on account of the accident to Oldfield, who was to have been the star attraction, Toledo being his home city. Satisfactory arrangements were made and the date of the Toledo meet will be announced in the near future,

HENRI PAGE IN THE 40-H. P. DECAUVILLE RACER.

William E. Metzger, of Detroit, when seen shortly after the fatal accident at the Grosse Point track on September 9, was deeply moved by the tragedy. "I am done with automobile racing," said he; "the cost of the sport is too dear. We have had some good races here, but they have caused the death of this poor fellow, and it was only by mere chance that more persons were not killed." This decision destroys the probability of the proposed triangular match race at Detroit between Barney Oldfield, Tom Cooper and Jules Sincholle. Plans had been under consideration to hold this race on September 26.

Macon, Ga., Automobile Association.

A meeting of automobile owners was called recently in Macon, Georgia, with the object of forming a local organization. Those present enthusiastically favored the movement, and the Macon Automobile Association was formed without delay. The following officers were elected: President, A. S. Moore; vice-president, Dr. H. H. Johnson; secretary, E. W. Burke; treasurer, F. B. West.

Following the election of officers, the subject of automobile racing was discussed at length and it was decided to make arrangements for a series of track events to be held, if possible, during the approaching annual State Fair. J. W. Shinholser, Dr. H. H. Johnson and F. B. West were appointed a committee to confer with the management of the Fair Association.

Other committees appointed at the initial meeting of the Macon Automobile Association included one on constitution and by-laws, consisting of J. W. Shinholser, C. Huhn and Dr. H. H. Johnson, who were asked to report at the next meeting of the association, and an outing and touring committee, on which C. D. Russell, L. O. Stevens, Morris Putzel, G. C. Conner and Frank B. West were asked to serve.

Ocean to Ocean Runabout Tour Ended.

Messrs. Whitman and Hammond Reach New York, and Deliver Mayor Schmitz's Message to Mayor Low—Route of Their Long Journey.

"Here we are, boys, New York at last and mighty glad of it!"

The speaker, begrimed with the dirt of the road, mud-bespattered and as dark as an Indian but smiling and happy, L. L. Whitman brought good cheer with him as, in the driving rain of last Thursday afternoon, he entered the office of the Oldsmobile Company on 60th Street at the close of a journey of 5,000 miles from San Francisco to New York in a regular stock model Oldsmobile runabout. E. I. Hammond, his companion on the rough journey of seventy-three days' duration, was as bronzed as Mr. Whitman, as mud-bespattered and as glad to at last have reached his destination.

Many weary days elapsed for the pair between July 6, at 3 P. M., when they started from San Francisco, and September 17, at about the same hour, when they arrived in New York City—weary days of "plugging" up over the Sierra Nevada Mountains, over the Rocky Mountains, across the desert lands, through the unspeakable mud roads of Nebraska, and then on from Omaha. The part of the journey to Omaha was a succession of daily struggles against the elements and against bad roads. That portion of the journey took fifty-three and a half days of the seventy-three. Nine days were spent in Omaha waiting for a chance to get through Iowa without repeating the experiences in Nebraska. That the wait was well advised is shown by the record time from Omaha—four days to Chicago, two days thence to Detroit, and five and a half days from Detroit to New York. Those eleven and a half days make a record-breaking trip. In one day, from Des Moines to Cedar Rapids, Iowa, 170 miles were covered, and the average mileage per day was 150. West of Omaha any distance was a day's work—thirty miles or seventy-five miles, according to road conditions.

Messrs. Whitman and Hammond had an interesting story to tell of their trip. Whitman is an automobile dealer in Pasadena, Cal., but originally hailed from Maine. He went out to California three years ago. Hammond was formerly a pacemaker for Frank Waller on the cycle track. He went West with Waller, was left in California when Waller went to Australia, and became a repairman. Both Whitman and Hammond wanted to come East and decided to do so in a runabout automobile for the novelty of the experience. They ran their machine onto a boat at Los Angeles and arrived at San Francisco where, on July 6, they received a message from Mayor Schmitz, of San Francisco, to be handed to Mayor Low, of New York. They tell interestingly of the many days spent in the little machine climbing the seemingly insurmountable mountains, following the trail of Dr. Jackson and his Winton and of Fetch and Krarup in the Packard, through the deserts, through mud and then over the eastern roads to New York. Whitman says that he would not do it again for $100 a day, while Hammond, being young and robust, would start back to-morrow. He wanted to get back East again, but is now as anxious to get to the other side of the continent.

As a record, the ride stands unique. As they lost three cyclometers *en route*, their actual mileage cannot be stated, but it was more than 5,000 in the estimation of many who know the roads. From San Francisco they went to Sacramento, thence through Carson City and Reno, Nev., to Ogden, Utah, where they left the trail of Dr. Jackson and made a detour over the Laramie, Wyo., route. Thence they drove through Fort Collins and into Denver, Colo., then through Julesburg and to Cozad, Neb. It was found necessary to get out of the valley of the Platte River owing to the impassable condition of the roads. From Cozad the road led through Lincoln to Omaha, and from there through Des Moines, Cedar Rapids and Clinton, Iowa, into Illinois. The Rock River road to Chicago through Sterling was taken. At Chicago it was decided to make Detroit by way of Hammond, Ind., and Toledo, Ohio. From Detroit the Canadian roads were followed to Niagara Falls and thence across to Rochester and through Syracuse, Utica and Albany to the east bank of the Hudson, down which they drove.

The arrival of the tourists at Yonkers was telephoned to New York on Thursday at 1 o'clock, and R. G. Howell went out to meet them but missed them. They found their way alone into New York and to the Sixtieth Street agency for the Oldsmobile, where they stopped. The delivery of the message to Mayor Low was postponed on account of rain to Friday, when, at 11 o'clock, the ceremony was gone through with on the front steps of the City Hall, where many professional photographers snapped the novel sight.

WHITMAN AND HAMMOND AT THE CITY HALL, NEW YORK.

While crossing the desert they covered their tires with broad canvas shoes laced on, and thus saved much trouble. Gasoline of poor quality was obtainable at 50 cents a gallon, but in the mountains they used 86-degree gasoline owing to the altitude, receiving other gasoline at points on the road to which they had shipped it. Water they found very precious and hoarded it jealously for the long trips on the desert. Rattlesnakes were plentiful and many were killed. The cowboys treated them kindly and at one time threw a lasso around their dashboard and pulled

them out of a hole in which they had stalled. They saw plenty of Indians but the aborigines gave them no trouble.

Of their machine neither Whitman nor Hammond can say enough. The pleasures of the journey, such as they were, came from a perfectly running motor, an easily managed carriage and a comfortable seat.

CROSSING THE ARCH BRIDGE BELOW NIAGARA FALLS.

Both said that for another trip they would ask for nothing better than a light, easy-running and easily managed rig such as the one used by them.

Following is Mr. Whitman's own graphic account of their run from Detroit to Peekskill, N. Y.

Editor THE AUTOMOBILE:

Sir:—The equinoctial gale hit us when we were just outside of Peekskill, N. Y. Pulling out the rubber cover, we came into Peekskill in the rain and wind storm which did so much damage on the coast. After lunch, returning to the Oldsmobile, which we had run into a stable, I noticed a fine ambulance standing beside the machine. One look inside and another outside at the driving rain and twisting trees decided me. I got into the ambulance and stretched out on the cot, where I rested and listened to the storm howling through the trees and streets. When we left Poughkeepsie at 8.30 A. M., the clouds did not look too bad, and we expected to make New York by 4 P. M.

We have made a fine run from Omaha, as far as Detroit as reported to you last week.

Leaving Detroit after attending the races there, we crossed the St. Clair River to Windsor, Canada, and headed for Niagara Falls, instead of returning down around Lake Erie *via* Cleveland. After one day out we had some showers, making bad running for about ninety miles; then we had good weather until to-day. The Canadian roads in Ontario we found better than American roads for the same class of people and wealth. We ran through London, Woodstock and Hamilton to Niagara Falls. One afternoon we ran 125 miles, so you see the roads must have been fine.

We spent one forenoon at the Falls, where we went down under the cascade on the Canadian side, where we could look up and see the whole volume of water as it rolled over our heads and fell into the depth below. Crossing the Arch Bridge at 11 A. M., we had lunch at Lockport, and stopped for the night at Palmyra, N. Y. The next day we made Little Falls, and last night Poughkeepsie. The roads down the Mohawk Valley to Albany are poor. Such roads are a disgrace to a State, especially through so wealthy and populous a district—large cities only a few miles apart and the most abominable road of cobble stones and mud thrown in "most any old way."

The machine has given no trouble on the run from Detroit. One steel wheel rim came apart at the weld, causing quite a delay, but we took it apart and repaired it at a nearby blacksmith shop and find it now as good, if not better, than a new one. Transcontinental tourists must not be troubled with trifles like this. We find even in our travels across New York State many horses that look with critical eye on the automobile, and to avoid any possibility of accident the machine should be stopped at a reasonable distance. The roads on this side of the Hudson are fine but hilly. Weather permitting, we should run into New York City to-morrow.

L. L. WHITMAN.

Peekskill, N. Y., Sept. 16.

CHARLES W. GRAY STARTS FOR CLEVELAND-TO-CHICAGO RECORD.

Special Correspondence.

CLEVELAND, Sept. 21.—Charles W. Gray, president of the Chicago Automobile Club, left Cleveland last Friday afternoon in an attempt to lower the automobile road record from Cleveland to Chicago. He was accompanied by J. W. Ellis and a professional operator. Mr. Gray's car is a standard Peerless touring car in which he recently made the trip from Chicago to Mammoth Cave, Kentucky.

Mr. Gray left Chicago on Sunday, September 13, and covered the distance between there and Detroit—which with many detours amounted to 450 miles—in twenty-five hours. From Detroit he came to Cleveland.

Before starting on the return trip Mr. Gray telephoned to the Chicago club stating the time he was leaving Cleveland and asking the condition of the road in the vicinity of Chicago. The reports he received were not encouraging. The record is now held by Mr. and Mrs. Bert Williams, of the Chicago Automobile Club, who made the trip in a little less than four days.

MILES OF HARVESTED RUSHES PASSED BY TOURISTS.

Automobile Lamps.

Kinds and Styles Illustrated and Described—Adaptation of Sizes and Styles to Different Vehicles and Pockets.

The function of the old-time carriage lamp is that of a signal only. It warned other road users of the presence of the carriage, but was not expected to light the road. What the driver failed to see, at the cautious jog trot of night travel, his animal usually saw.

The bicycle lamp, at first intended as a signal only, became with the commercialization of calcium carbide and acetylene gas of great utility as a road illuminant, permitting materially higher speeds with equal safety.

FIG. 1.—SMALL SIDE LAMP.

Automobile lamps, originally but slightly enlarged editions of the bicycle lamp, and serving chiefly as signals, have lately found a greatly enlarged sphere of usefulness in headlights for fast night travel. Some of these, of a brilliancy far surpassing those of the ordinary locomotive, are capable of disclosing objects in the road at a distance of from 100 to 500 yards. With one, two or three of these dazzling lights affixed to the front of a machine, the tourist may travel any road at an average speed equal to what he can maintain by daylight.

Naturally such lamps as these last named are used only on the fast and correspondingly costly machines. If their price did not render them a misfit for the runabout, their size and formidable appearance would. For such speeds as the runabout user is likely to care for, a set of judiciously selected oil lamps will serve very well, and will be much cheaper and simpler to care for as well. Indeed, even the owner of the touring or racing car will find a pair of oil side lights of moderate power almost essential, not indeed to help out the headlights, but to take the place of the latter for slow running or for use as signals in the city. In addition, the ease with which they may be removed and carried about makes them very convenient when a stop is made.

Considering the matter of cost, we shall find that ordinary oil side lamps can be purchased for about $6 to $8, if japanned or enameled, or for $10 or thereabouts if of polished brass. Oil headlights are useful for small machines and moderate speeds, or for good and well-known roads, and cost from $15 to $22 according to the power and finish. Acetylene lamps cost considerably more, but are really essential if good speeds are to be maintained on dark roads. The smallest acetylene headlight would cost about $15, but the widest range in styles is found at prices from $40 to $50. The generators on these lamps are usually built into the lamp, but many lamps with separate generators can be found as well. The reflectors are usually spun copper, and formed to as near a parabolic section as possible. Occasionally aluminum reflectors are found. The front glass is usually flat or bulging in lamps of the class just mentioned, which have an effective range of about 100 yards. The more powerful headlights have lenses in front to concentrate further the rays of light. These latter lamps are sometimes very elaborate, and correspondingly costly, the prices running up to $150 and $175. They will illuminate the road brightly for several hundred yards ahead.

FIG. 2.—A STANDARD SIDE LAMP.

As electric vehicles have, up to the present time, been used mostly in the city, where the streets are always light, little attention has been paid to electric lamps. Recently, however, it has been possible to obtain special lamps, or at least special bulbs, for electric vehicles.

Oil Lamps.

When designed for automobile requirements, oil lamps are made of heavy gauge metal, the seams being hard soldered, riveted or rolled. The glass front or lens is securely mounted in a heavy metal frame, which is fastened by a heavy catch. The oil reservoir is also attached by a suitable device, so that it cannot shake loose or fall out.

In Fig. 1 is illustrated one of the smaller side lamps, a pair of which cost only $7.50. This lamp is ten inches high, including the bail, and is provided with a 3-inch polished lens and a good reflector having a green or ruby glass in the center. The oil pot is held in place by springs, and its capacity is sufficient for about six hours' burning on one filling. A simple catch is provided so that the wick will not turn down of its own accord.

FIG. 3.—OIL SIDE LAMP.

The next two figures illustrate standard automobile side lamps, both of about the same power and price, selling in the vicinity of $10 in polished brass, and for about $6 each in enameled finish. They operate on the well-known tubular draft principle, and each has an oil reservoir of sufficient capacity to burn about ten hours on one filling. The lamp shown in Fig. 3 has a body made of very heavy gauge sheet brass, the joints being double seamed, and the other parts riveted, little solder being used. Air enters under the lower flange of the top and passes down between the hollow walls to the flame through the interior apertures. The reflector is made of a fine grade of rolled silver-plated copper, spun into a shape closely approaching a true parabola, which projects each light ray straight forward, and not off at an angle, where its illuminating effect would be lost. The convex beveled glass in the front is a special grade of imported French plate,

either spun into the door flange or held in place by a spring wire ring. The oil reservoir is held in place by the usual bayonet catch, and in addition is locked

FIG. 4.—TUBULAR DRAFT LAMP.

by means of a spring pin attached to the reservoir, which engages a hole in the lamp body. Another interesting feature is the socket for the supporting brackets, which permits the use of either a square or round bracket end. The general features of all lamps of this manufacture are similar, but there is considerable difference in price and capacity That shown in the cut will burn ten hours on a single filling. The price, in full brass, is $8.

A lamp for which special claims are

FIG. 6.—TWO-COLOR FRONT GLASS.

made is shown in Fig. 4. This also is of the popular tubular draft type, the body being made up of two cylinders of different sizes. The reflector is the full size of the interior of the lamp. The price of a lamp of this type is $11 in full brass; it is well constructed and of a simple but practical design.

The lamp shown in Fig. 5 departs from the conventional form in that the parabolic aluminum reflector, which constitutes the whole central portion of the lamp body, is carried out beyond the glass front and widely flared, giving a design at once efficient and unique. It is 15 inches high, and the reflector is 9 inches in diameter. The total weight of the lamp is only 6 pounds. This lamp may be used either for a headlight or as a side light. Its burning capacity on one filling is 24 hours and the price is $20.

A very handsome side lamp, which operates on the central draft principle, is shown in Fig. 6. It is a very powerful double convex illuminator of 20 hours' capacity. The upper part of the double convex front lens is cut away and a green glass inserted for the right-hand lamp.

FIG. 7.—RED REAR SIGNAL.

Head lamps are made after the same design, but with the green section omitted from the glass front. The reflectors are of copper, silver plated and highly polished. The dimensions are: 14 inches high, 5 inches deep, and 6 inches in diameter. The price in polished brass averages about $20.

The laws of a number of States require that rear signal or tail lamps must be carried, showing red, to warn approaching vehicles, and manufacturers have been ready to meet this demand. A popular type is shown in Fig. 7. It is 7 inches high, with a 3 1-2-inch reflector, and weighs only a trifle over one pound. Fig. 8 illustrates another tail lamp, this model showing a side light also. It is 11 inches high with a 4-inch front. Lamps of this style average from $4 to $6 in price. Another type, costing about the same, made especially for motor cycles, is shown in Fig. 9. This interesting little lamp is light in weight, while the large 6-inch reflector assures plenty of light.

Acetylene Lamps.

The lamps previously described, all of which burn oil, are used particularly on light and medium weight automobiles of the runabout type, and as side lamps to heavier automobiles. In considering the much more powerful acetylene lamps

FIG. 5.—WITH PARABOLIC REFLECTOR AND FLARING FRONT.

which have become very popular during the last few years among owners of heavier cars, it will be interesting to mention briefly the source, calcium carbide, from which the gas is obtained.

Calcium carbide is not a substance recently discovered, although until of late years its cost of production rendered its commercial use impractical. Is is a compound of carbon and calcium, produced by fusing lime and coke by electricity.

FIG. 8.—TAIL LAMP WITH SIDE LIGHT.

It is a peculiar substance, not at all affected by ordinary temperatures, and neutral to many chemicals, but combining with water to give off a powerful gas of high illumina-

ting value. The residue is slaked lime, which, being of no further value, is thrown away. Acetylene, as the resulting gas is called, possesses an illuminating efficiency about eighteen times greater than ordinary illuminating gas, and its light is of surprising whiteness.

Briefly speaking, acetylene lamps all operate in much the same way, the carbide being carried in a removable vessel or generator, either mounted in the lamp or connected to it by a rubber tube. A water reservoir, immediately over the carbide chamber, feeds water, a drop at a time, to the carbide, and the resulting gas finds its way through suitable passages to the burner. It is desirable that the water should be distributed as evenly as possible throughout the carbide, and manufacturers have adopted various means to accomplish this, each being considered a "selling point" of considerable value. Some lamps are arranged with a valve by which water is shut off when the light is no longer required, while others are provided with a gas valve instead, the arrangement being such that further generation of gas after this valve is closed soon estops the water from entering the carbide chamber further. The former arrangement does not prevent the lamp from burning a short time after the valve is closed, while the light may be immediately extinguished if a gas valve is used.

FIG. 9.—MOTOR-CYCLE OIL LAMP.

While investigating the different styles of acetylene lamps, several features will be worthy of consideration, among them being simplicity, good appearance, ease of operation and safety. The carbide chamber or generator should afford ready facilities for cleaning, as also should the lava tip. Safe operation has been considered rather doubtful, but modern acetylene lamps, with proper care, may be handled with perfect security. Style and price offer a wide range for selection, but it will be found that even the low-priced lamps of this type are safe, easily cleaned, well made and otherwise satisfactory. In other words, the price is governed by finish and power, rather than by serviceability.

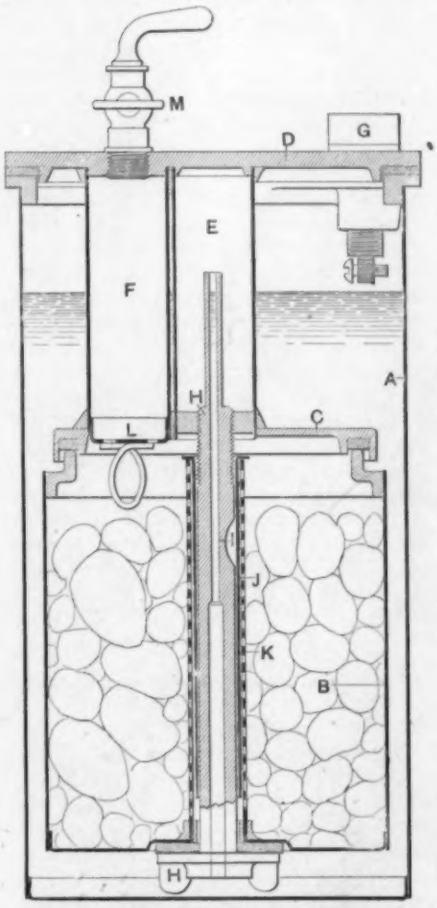


FIG. 11.—ACETYLENE HEADLIGHT GAS GENERATION SYSTEM.

Fig. 10 illustrates a leading American acetylene headlight, which closely follows the design which was first introduced in France and is now considered standard throughout the automobile world. The front lens is practically the full size of the lamp body. It is mounted in a hinged door, which may be opened to clean the interior. The top or hood of the lamp, as that part of it to which the bail is attached is known, also opens on a hinge, exposing the generator, which may then be easily removed. Double brackets are securely riveted to the sides, these being fitted for square or round bracket extensions. Lamps of this general type are finished in polished brass, prices, including generators, averaging $40. They are very powerful, lighting the road sometimes for 200 yards ahead. The average burning capacity on a single charge is six hours, and renewing the charge is a matter of only a few minutes.

The construction and operation of the generator in lamps of this class may easily be seen from Fig. 11, which shows in vertical section the generator of the lamp illustrated in Fig. 12. The tank *A* is of square section, and is held in place in the lamp by its own weight and the pressure of a flat spring bearing against one side. The case *B* which contains the carbide is cylindrical, and is closed at the top by a cover *C* with a soft rubber gasket. This cover is permanently connected with a square cover *D* of the water-tank by two copper tubes, *E*, *F*, which are soldered in place. *D* is secured by two screws *G* at opposite corners, and is made water and air tight by a rubber gasket. The brass bolt *H*, with a rubber washer under its wing head, secures *B* and *C* together. This bolt is drilled throughout its length, forming a passage through which the water rises from the bottom of the tank and enters the carbide chamber drop by drop through the pinhole *I*. The copper sleeve *J* deflects the water downward, so that it attacks the carbide at the bottom

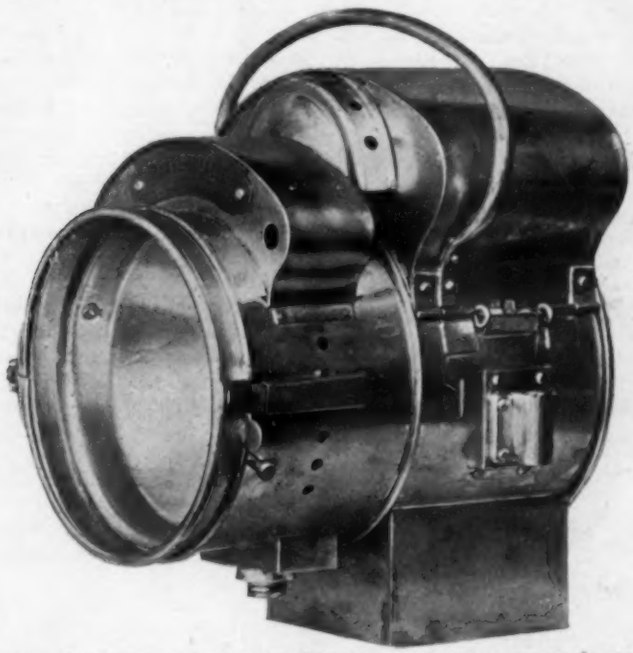


FIG. 10.—AMERICAN ACETYLENE HEADLIGHT FOLLOWING FRENCH PATTERN.

FIG. 12.—HEADLIGHT WITH CANDLE SOCKET.

first, and the perforated tube K soldered fast to the bottom of B prevents the carbide from clogging J or the pinhole I. The gas generated passes out through the straining cap L to tube F and gas valve M, from which a rubber tube connects it to a fixed tube in the lamp case leading to the burner. It will be noticed that the entire generator is removable from the rest of the lamp. When valve M is closed the increasing pressure of the gas prevents the water from entering further through I.

Another large acetylene lamp is shown in Fig. 13. All such lamps have much in common, although the arrangement or design of the generator varies in the different examples. For instance, the generator used in one type is provided with a screen, near the bottom of the removable carbide holder, on which the carbide rests; the advantage is that the lime dust remaining, after the carbide is exhausted and possesses no further value, shakes through the screen into the bottom of the vessel,

FIG. 14.—HEADLIGHT WITH ROUND GENERATOR.

thus leaving the lump carbide free to the action of the water. The heat of generation is used to vaporize the water as it is admitted to the carbide, an even distribution being assured in this manner. The white metal reflector is 7 inches in diameter, and the beveled convex glass front is the full size of the lamp interior. The generator is of large size, one filling lasting about seven hours.

A well-known acetylene lamp is shown without the generator in Fig. 14. The generator is round and fits into the lamp proper very much as the oil reservoir in an oil lamp. The reflector is spun of aluminum; it is readily removable for cleaning, and is held in place by a suitable fixture. This reflector is a true paraboloid, reflecting the intense light with great power. The burner tip is held in place by two springs, the joint being tapered to insure a gas tight connection, and it is readily removable for cleaning. The beveled glass front is of imported French plate. The generator of this lamp works on the

FIG. 13.—POPULAR TYPE HEADLIGHT.

will remain constant so long as the lamp is not lighted. The gas is fed to the jet by way of the tubes JJ, K being merely a spring to hold a piece of filtering cloth. A

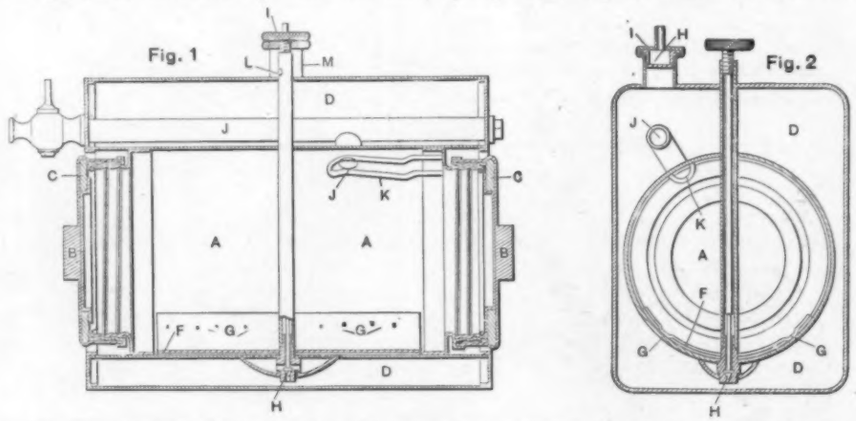


FIG. 15.—LONGITUDINAL AND TRANSVERSE SECTIONS OF ROUND GENERATOR.

same principle as do the separate generators made by this company, one of which is shown in Fig. 15, in vertical section. The carbide chamber A is horizontal and closed by two screw heads BB, a tight joint being assured by thick rubber washers CC. The annular space DD outside of the carbide chamber is the water reservoir, the water entering the carbide chamber *via* the needle valve H. The water is not permitted to enter the carbide chamber direct, however, it being obliged to find its way, in a very thin film, under a sheet metal false bottom F, which evenly distributes it to the carbide. This false bottom is prevented from touching the interior surface of the carbide chamber by small pressed projections G. The water admission valve H is opened by means of the knurled head I, but no regulation is required while the lamp is burning, its action being entirely automatic and controlled by the gas pressure. Thus, if the lamp is burning to its full power, the flow of water is constant, but if the light is extinguished, the instantly increasing gas pressure will soon prevent the admission of more water, whereafter the gas pressure

feature of late models is the replacing of vent L by a tube, leading the surplus gas into the water filler M.

The acetylene lamp shown in Fig. 16 is an especially heavy affair, an interesting feature being the lens, which is made in

FIG. 16.—ACETYLENE HEADLIGHT HAVING SEARCHLIGHT LENS.

strips to allow for expansion caused by the natural heat of the lamp while in operation. If a single glass were used there would be considerable danger of its breaking, and the cost of an extra fine lens of this size is a considerable item. This lamp is 14 inches high and 10 inches long, and the glass front is 6 1-2 inches in diameter. The seams are rolled wherever possible, and the metal employed is of very heavy gauge. The price of this lamp as shown is $50.

The lamp illustrated in Fig. 17 is one of the most powerful illuminators on the market. Its great depth permits the use of a very perfect parabolic reflector, while the novel lens still further tends toward maximum efficiency. A lamp of this kind is of course suitable for very large machines only. The length is 16 inches, and the diameter is 10 1-4 inches. The price, complete with generator, is $120. A lamp, made by the same manufacturer,

FIG. 18.—FOR SEPARATE GENERATOR.

which requires a separate generator, is shown in Fig. 18. The price, without the generator, to which the lamp is connected by a rubber tube, is $30.

One manufacturer has gone further than any other in producing a very powerful acetylene headlight for automobiles. It is a veritable navy searchlight, using gas instead of electricity as the illuminating agent. The light is reflected by means of a curved silvered lens or "lens mirror," which is very carefully ground to throw the rays of light forward exactly parallel, so that none of their value is lost. This very efficient lamp is mounted on fixed brackets or may be purchased with a swinging U searchlight frame, a small convenient lever controlling the direction of the lamp, so that it can be turned when following a curved road, or directed toward a signboard. It is said that the clear, solid beam of light thrown by it will brightly illuminate objects fully 1,500 feet ahead. This lamp is furnished with an independent generator to be carried in the car, or, if preferred, acetylene gas storage cylinders may be used, a cylinder 5 inches in diameter and 12 inches long supplying sufficient gas for fifty hours' burning. When empty these cylinders are returned for recharging, which is done at a comparatively small cost. The interior of

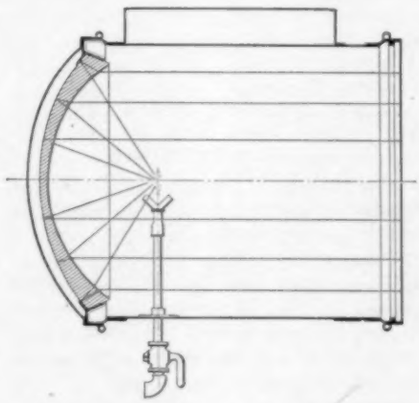


FIG. 19.—SECTION OF SEARCHLIGHT.

this powerful lamp is shown in Fig. 19 in section, from which a good idea may be had of the lens and position of the burner.

Electric Automobile Lamps.

In the past owners of electric vehicles have been content to use ordinary incandescent bulbs for their vehicles, but a well-known manufacturer has introduced a special automobile lamp of this type, which is shown in Fig. 20. The bulb is ingeniously blown in the form of a curved reflector, and the filament is concentrated in the center, thus securing parallel projection. These lamps are supplied in all voltages up to 45, the general demand being for 14, 22 and 44 volts, the prices varying according to the shape of the bulb and the voltage.

FIG. 20.—NEW ELECTRIC LAMP.

Motoring Growing in Favor in Mexico.

The new sport of automobiling continues to attract the wealthy and influential residents of the City of Mexico. The Automobile Club of Mexico is building a beautiful chalet, which is now nearing completion at Chapultepec, and the enthusiasts of the city are already looking forward with much pleasure to the Sunday afternoon trips to the chalet which are to be inaugurated as soon as the building is finished.

Although electric vehicles were first in favor in Mexico, of late considerable interest in gasoline cars has developed. Julio Limantour, one of the most enthusiastic and prominent members of the automobile club, has recently ordered a Columbia gasoline car of tonneau type, to be specially finished and equipped with many extra fittings for the convenience and comfort of its owner. E. L. Beck, also won over to the gasoline automobile, has ordered a 20-horsepower Winton touring car.

New model electric vehicles are in use by Edward Doerr, W. A. McLaren, J. L. Starr Hunt, Ely Goddard and Messrs. Tuckerman & Stackpole.

FIG. 17.—HEADLIGHT WITH HEAVY LENS AND PARABOLIC REFLECTOR.

Digest of Foreign Periodicals.

While news of foreign events is usually placed before the readers of this publication through letters from special correspondents located in the various centers of the automobile movement in Europe, the foreign periodicals which are received at the office of THE AUTOMOBILE contain, in addition to their accounts of current events, a certain amount of useful or interesting information bearing upon the growth of ideas or the development of advanced methods in construction. They are not all equally bright or equally instructive, but every one of them contains at times something that all may read with pleasure or profit. It is the intention to gather under the above head, "Digest of Foreign Periodicals," all such bits of choice writing, bright views and items throwing light on the present or the future of automobilism, as, in conjunction with a complete news service, will permit American readers to round off their knowledge of the automobile movement in all parts of the world or, in other cases, at least furnish information as to where articles of special interest may be found.

Should Tires Be Washed?

In his weekly letter on tires and the proper treatment of tires, which is published in nearly all French automobile papers—being in fact a clever form of paid advertising—Michelin, the tire manufacturer, speaks of the effect of moisture on tires, and admits that it weakens the fabric in all cases when it makes iron rust. Where bolts, that penetrate the fabric, rust, deterioration of the latter is sure to spread, and for this reason it is common that tire casings burst the first time they are used after a winter's rest, the effects of rust and moisture having become localized and aggravated during the storage period. The question as to whether muddy tires should be washed or not, he answers: "By all means wash them after each trip; there is less danger of damage from the water, which soon dries off, than from the mud, which retains the moisture; besides, the mud may conceal a cut which ought to be attended to."

Knapp's New Motor Secrets.

The third revised edition of "Les Secrets de la Fabrication et de bon functionnement des Moteurs pour Motocycles et Automobiles," the well-known volume by Georgia Knapp, is now announced in *Le Chauffeur* of Aug. 25 as ready from the printer. An English edition was announced some time ago as being under preparation. The new edition takes in consideration the advancement in knowledge due to the competitive motor trials held during the past year, especially one organized by *La Locomotion Automobile*, by which it was found at what degree of compression motors produced the best results, and where comparisons between motors of the same bore and stroke, but of notable variations in power, enabled investigators to locate the causes of such variations. The book, in other words, is represented as thoroughly up to date and replete with information of value to the driver and purchaser, as well as the maker, of automobiles.

As Feeders for Railways.

The growing importance of motor cars as feeders for railways—transforming them into trunk lines on a smaller scale—is attested by an illustrated article the text of which we take from the *Automobile Club Journal* of Aug. 27, and which is found in slightly different form in other British contemporaries, emanating evidently from a manufacturing firm interested in the large-sized motor cars necessary for carrying a large number of passengers. Writes the *Journal:*

"There is every prospect of motor cars playing an important part in the future of our big railways. A new development, as announced by Lord Cawdor, Chairman of the Great Western Railway Company, came into operation last week, with the introduction of a service of motor cars plying between Helston and the Lizard. The object of this service is to feed the main line, and, moreover, it is established as an experiment, with a view to ascertaining the needs of the district through which it runs.

"The road motor cars that have been provided are built by the Milnes-Daimler Company, with 16-horsepower petrol engines. They are capable of seating thirty-two passengers, wagonette fashion, and have an umbrella covering. If this experiment proves successful, other road services will be established as feeders to the railway between the existing stations in country districts These vehicles will furnish links with the outlying hamlets and small towns needing improved traveling facilities.

"In the present service, Helston-Lizard, there are three departures each way, with intermediate stops at Ruan Major, Penhale, Cary Cross-lane, and Lemarth.

"An experimental service of motor cars on rails is being established in the Stroud Valley, between Stonehouse and Chalford, a distance of about seven miles. The cars will carry fifty-two passengers, and will stop at four intermediate points between, and in addition to, the ordinary stations at Stroud and Branscombe. Provision will be made for passengers to gain access to the high road. The Board of Trade has approved the system of working, and the cars are now under construction. Engine and seating accommodations are to form one vehicle—not dissimilar in plan to a Central London Railway leading or tail motor car—but the motive power is to be steam, with a tractive energy equal to that of the smaller class of locomotives in use on railways. It will have a speed of 30 miles an hour. The funnel is a very small roof projection, and the engine is to be so boxed in that it will scarcely be distinguishable outwardly from the rest of the car.

"That the Great Western is not the only company which has recognized the advisability of instituting a motor car service is evidenced by the proposals being made at the various companies' meetings. The Taff Vale Railway Company has adopted motor transport for carrying passengers short distances, while the Great Northern Company are at present building motor 'buses capable of seating thirty passengers, in order to feed their system. The North-Eastern Railway is making arrangements to run a service of 'buses between Beverley and Brandesburton."

Work Expected of Brakes.

The retarding effects of various forms of brakes is still insufficiently established, reports Count Henri de Sonio to the technical committee of the French Automobile Club. The best give perhaps a retardation of 300 kilos per ton (1,000 kilos) of car weight, but it is safer to figure on only 250 kilos, which would correspond to a speed reduction of two meters per second. Given a car weighing one ton and going at 20 meters per second or 72 kilometers (45 miles) per hour, such brakes would bring the car to a stop in 8 seconds and on a distance of 80 meters, according to the accepted formulas. To obtain as much better results as are really required in cases of emergency, it would be necessary to make the diameter of brake surfaces at least half that of the wheels, and even then the work to be done—or energy to be absorbed—by each of the two brake bands during the first second of brake action would equal 600 kilogrammeters (about 3,960 foot pounds), and as the effort exerted by the driver on his pedal or lever should not exceed 15 or 20 kilos (33 to 44 pounds) the brake question takes the form: How to produce nearly 4,000 foot pounds of retarding energy in one second by an initial effort of 30 to 40 pounds, without injuring the frame of the vehicle. Monsieur de Sonis passes from these introductory remarks to a consideration of the various forms of brakes now in use, the subject being treated in a series of articles not yet finished.—*From La France Automobile of Aug. 29.*

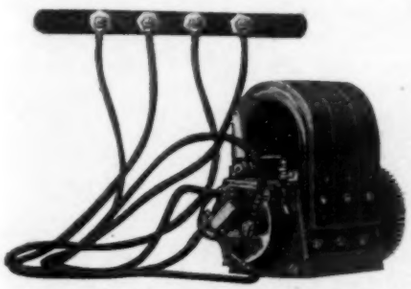
Motor Cycles in Sporting Goods Show.

Special Correspondence.

WASHINGTON, D. C., Sept. 21.—A sporting goods show is to be held in the Washington Light Infantry armory from November 30 to December 5. It will be promoted by the local dealers in sporting goods and besides a big display of sporting goods, rifles, fishing tackle, bicycle and automobile sundries, there will be a motor cycle department. All the different machines that are handled in this city will be exhibited, and such a representative showing of motor cycles will undoubtedly have the effect of creating more interest in them. Motor cycles will also have a place in the next automobile show to be held here some time in March.

The New Bosch Magneto.

The well-known Simms-Bosch magneto, the principle of whose action was described in the issue of THE AUTOMOBILE for February 14 last, has received at the hands of its German inventor, Robert Bosch, a radical and very ingenious modification. Heretofore it has been a simple primary magneto, used ordinarily with contact-sparking devices, though capable of being used for the jump spark by the addition of an ordinary induction coil. With the



THE BOSCH IMPROVED MAGNETO.

latter arrangement, as with the the former, it of course gives but one spark. The new Bosch magneto uses a spark plug, but no induction coil, the secondary current being induced in a portion of the armature winding itself. Moreover, the secondary spark is not depended on to ignite the charge. Its function is simply to afford a "bridge," by virtue of the thin stream of vaporized metal which renders the spark visible, of so much lower resistance than the air gap as to permit a heavy primary current to jump

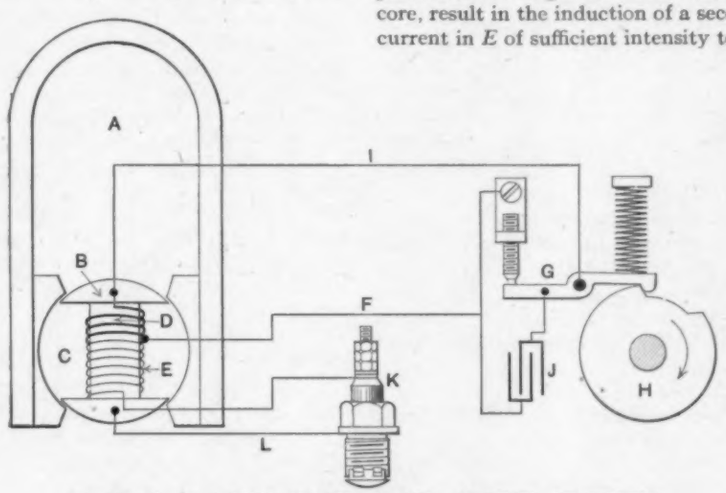


DIAGRAM OF BOSCH MAGNETO AND SYSTEM OF WIRING.

the gap, giving a brilliant "fat" spark of great heating power. This device was alluded to but not explained in our issue of April 11. Its principle will be understood from the following:

The permanent field magnets *A*, and the H section armature *B* are of the familiar form before used. The armature coil, *C*, however, is wound in two sections, *D* and *E*, which are connected in series. Section *D* resembles the primary coil of an induction coil in that it has a small number of turns of rather thick wire. Section *E*, which is presumably wound over *D*, though the diagram does not thus show it, has a large number of turns of rather fine, though not excessively fine, wire. The inner terminal of *D* is grounded on the armature core, as shown; this core being in electrical connection with the body of the engine. The outer end is connected to the inner end of *E* and also to a wire *F* leading to one terminal of the circuit-breaker *G*, worked by the cam *H*. A connection *I* is established between the metal work of the magneto or motor and the other terminal of *G*, and a condenser *J* is connected in parallel around the circuit-breaker. The outer terminal of coil *E* is connected with the insulated terminal of the plug *K*, from which the current returns to *E* by way of the metalwork and coil *D*. This is indicated diagrammatically by line *L*.

In operation, contact *G* is broken at the instant when the armature core is in the vertical position shown, this being the position when the maximum current is induced in the armature coils. Breaking the primary circuit, as it may be called, causes a momentary excess current of considerable intensity to be induced in coil *D*, as is always the case when the circuit of an electro-magnet is broken; and this excess current, which flows in the same direction as the normal current in *D*, is absorbed into the condenser *J* instead of forming a heavy spark at *G*. The nearly instantaneous diminution to zero of this excess current, and the consequent diminution in like proportion of the magnetic lines of force in the core, result in the induction of a secondary current in *E* of sufficient intensity to jump the air gap of the plug. But as soon as this is done, the minute stream of heated metal vapor and air forming the visible spark reduces the resistance of the air gap to such an extent that the condenser discharges itself, the direction of the discharge across the gap being the same as that of the initial secondary current. Thus, with no rubbing or moving parts inside the cylinder, the thin jump spark is made the vehicle for producing the brilliant hot spark of the primary break.

It is said that this spark is so intense as to wear out rapidly the ordinary forms of spark plugs; and for this reason the maker has devised a new form of plug in which the current is divided between several points or paths, producing a positively-timed and very reliable means of ignition with no more wear than the ordinary plug suffers with the thin jump spark.

For a four-cylinder motor the device is so arranged and speeded as to give two sparks per revolution of the motor shaft, and a distributor mounted on the axis of the magneto delivers the current to one or another cylinder in the proper order.

The Production of Aluminum in the United States.

The production of aluminum in the United State during 1902 was approximately 7,300,000 pounds, as compared with 7,150,000 pounds in 1901, an increase of 150,000 pounds, according to a report on the production of that metal by the United States Geological Survey. The Pittsburg Reduction Company, operating the Hall patents, continues to be the sole producer of aluminum in the United States, and, although the company is in patent litigation with the Cowles Electric Smelting and Aluminum Company, of Cleveland, its plants are being developed vigorously. It has in operation 11,000 horsepower at Niagara Falls, N. Y., and 5,000 horsepower at Shawinigan Falls, Quebec, a total of 16,000 horsepower, which is equivalent to a capacity of 4,500 tons of metal yearly, or more than the entire output of the rest of the world. The increased activity on the part of the company has been due to the fact that some of its fundamental patents will expire within a few years, and it is striving to perfect the methods employed to such an extent that after the expiration of the patents it will be in a position to compete successfully with new producers that may enter the field.

Although the demand for aluminum has increased extensively, the price per pound continued practically stationary throughout the years 1901 and 1902. An international agreement between all of the aluminum producers has been drawn up and the price of ingot aluminum fixed for 1903, says the report. There are five companies in the world that produce aluminum at nine locations.

For several years past the various companies have continued their secretive policy concerning the development of the industry, and practically nothing has been published in regard to modern improvements beyond the descriptions of patents, which have been granted mainly for the purification of bauxite—the chief raw material used in the manufacture of the metal.

Correspondence

Gas Engine for Automobiles.

Editor THE AUTOMOBILE:

Sir:—Will you let me know, through your paper or by letter, what the diameters are of the inlet and exhaust valve openings in the best makes of high speed gasoline motors for autos, of about three and four inches bore: also the thickness of the cylinder walls when using a copper water-jacket? Has the two-cycle motor been used successfully in autos? Are there any autos in use that do not use rubber tires? E.

Salinas, Cal., Sept. 8.

See reply to H. A. B. on this page regarding valve sizes. For a high speed motor the inner diameter of the valve seat may be about .4 of the piston diameter. Careful provision must be made to prevent both overheating and unequal heating of the valve seat. It is best water-jacketed clear around.

The thickness of the cylinder walls may be about 1-10 to 1-12 of the bore, but not less than 1-4 inch for any motor.

The Elmore is the best-known machine having a two-cycle motor. Nearly all automobile motors are four-cycle. It has so far been found impracticable to dispense with rubber tires on any motor vehicles except the heaviest trucks.—ED.

The Geneva Reversing Gear.

Editor THE AUTOMOBILE:

Sir:—I have just seen in THE AUTOMOBILE, issue of September 5, a diagram of the reversing gear of the Geneva steam touring car. Can you tell me at what point or points of the travel of the movable gear a dead center is obtained? A. J.

Rochester, N H., Sept. 8.

The term "dead center" properly signifies a position of an engine crank parallel with the connecting rod, so that it can receive no motion from the latter. The "center" or mid-link position to which our correspondent means to refer is a feature only of the Stephenson link motion and similar valve gears. When the link block is midway of the link, the ends of the latter being oscillated in opposite directions by the eccentrics, it receives its minimum travel. If the eccentrics were laid out with that end in view it would be possible to keep the link block absolutely stationary in its mid-link position. This is not often the case, but the travel of the valve in this position is not sufficient to open the steam ports.

Referring now to the diagram of the Geneva valve gear, which is reproduced herewith, it will be evident that, except for the very slight difference due to the angularity of the link *D*, the travel of valve *E* will be the same, whatever the position of *C* as regards reversal. Consequently there is no inactive or dead position. Its equivalent, however, is found half-way between the forward and the reverse position of *C*, for in this position the steam ports will be open about as much before as after the beginning of the piston strokes, so that the engine will evidently stop running. It will be noticed that with this form of valve gear very little can be done in the way of "linking up" or shortening the cut-off, though at high speed the early admission attending a slightly shortened cut-off will serve to cushion the reciprocating parts.—ED.

Gas Engine Dimensions.

Editor THE AUTOMOBILE:

Sir:—What length of the stroke of a 5 by 5-inch cylinder should the compression space be?

Should the connecting rod be shorter than twice the length of the piston?

Also kindly give me the sizes of the valves. H. A. B.

Hartford, Conn., Sept. 8.

1. The compression space should be about one-third the piston displacement. If the piston head and cylinder head are flat and the valves are located in the latter instead of in recesses or chambers, the length of the compression space will be a little less (never less than one-quarter the piston displacement) and for a slow-running engine a little more, or up to 40 per cent. for a small and slow-speed two-cycle engine.

2. The connecting rod may be from 2 to 2 1-2 times the length of the *stroke*. This piston is best made a little longer than the stroke.

3. This will depend on the piston speed. The effective opening of the exhaust valve, measured around its seat, should be such that the velocity of the gases through it will be about 80 feet per second, on the supposition that the gases are at atmospheric pressure and are pumped out by the piston. For ordinary piston speeds this will give the seat an inside diameter of about one-third the piston diameter, but this may often be increased somewhat to advantage. Its lift should be about one-fifth or one-fourth the inside diameter. The inlet valve, if mechanically actuated, may be the same size as the exhaust valve. If opened by suction, it should be a little larger.—ED.

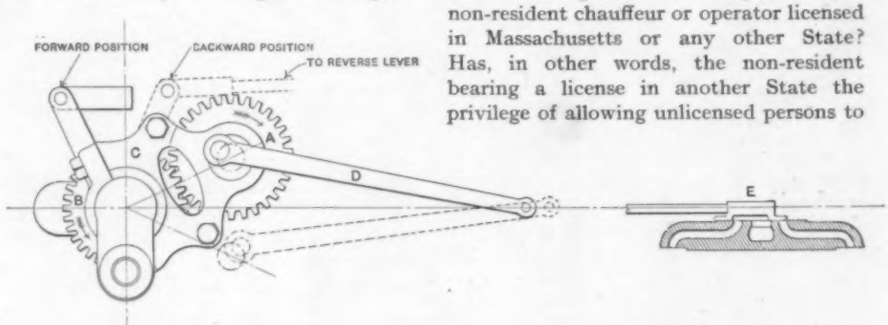


DIAGRAM OF REVERSING GEAR OF GENEVA STEAM CAR.

More "Consistencies" of the Massachusetts Automobile Law.

Editor THE AUTOMOBILE:

Sir:—The consistencies (?) pointed out in your issue of September 12, page 262, may be supplemented. Thus, Section 6 reads:

> "Automobiles or motor cycles, owned by non-residents of this State and driven by a person residing and licensed in some other State, may be operated on the roads and highways of this State, subject, however, to the speed limitations contained in section eight, and to any local regulations permitted under section fourteen, and to make such further regulations as the highway commission may make. The provisions of this section shall not prevent the operating of automobiles by unlicensed persons if riding with or accompanied by a licensed chauffeur or operator."

Laying aside the rules and numerous regulations which non-residents must bear in mind, and turning attention to the last part of the section, what does this part really mean? Does it mean that the provisions of section six shall not prevent the operating of automobiles owned outside of Massachusetts by persons unlicensed in any State, if they are riding with or accompanied by a chauffeur or operator licensed in Massachusetts; or does it mean that non-resident owners may allow unlicensed persons to operate their automobiles in Massachusetts if they, themselves, are licensed in Massachusetts, *i. e.* are licensed chauffeurs or operators; or does it mean that the provisions of this section six shall not prevent the operating of automobiles by unlicensed persons of any State if riding with or accompanied by a non-resident chauffeur or operator licensed in Massachusetts or any other State? Has, in other words, the non-resident bearing a license in another State the privilege of allowing unlicensed persons to operate his automobile in Massachusetts (provided he is aboard) while there is no provision for a like privilege for the resident holder of a Massachusetts license?

Under section ten it would appear that every electric automobile must be provided with a muffler, as the section reads: "Every automobile or motor cycle operated in this Commonwealth shall be provided with an adequate brake, with a muffler," etc.

Section 14 provides for special arrangements made by boards of aldermen and

selectmen of cities and towns, and concludes with the statement: "No such special regulation shall be effective unless notice of the same is posted conspicuously at the points where any road affected thereby joins other roads."

Many towns run their lighting on a moonlight schedule, and when this schedule is in force, how is the notice to be read unless presented to the moonlight, and further, how is it to be read when (as is often the case) clouds cover the moon though the moonlight schedule is still in force? Obviously some provision is needed for the effective lighting of such notices, moon or no moon.

In the booklet from the Automobile Department of the Highway Commission, reference is made to "Revised Laws, Chapter 54 (in part). Of the Law of the Road," Section 2 reads:

> "The driver of a carriage or other vehicle traveling in the same direction shall drive to the left of the middle of the traveled part of a bridge or way; and if it is of sufficient width for the two vehicles to pass, the driver of the leading one shall not wilfully obstruct the other."

Evidently the driver of a carriage or other vehicle is not instructed as to whether *"the same direction"* applies to someone ahead of him or someone back of him; or whether the travel of *"the same direction"* applies to other carriages, bicycles or foot-passengers. Assume, however, that it means that the driver of a carriage or other vehicle traveling in the same direction as another carriage or vehicle shall drive to the left of the middle of the traveled part of the bridge or way. If he happens to be in the leading vehicle traveling in the same direction, he must go to the left of the traveled part of the bridge or way. If he happens to be in the following vehicle he must also go to the left of the middle of the traveled part of the bridge or way, and this provision evidently brings the two vehicles to the same side of the road; both to the left of the traveled part of the bridge or way. Under such conditions how can the driver of the leading vehicle fail to obstruct the other (wilfully or not) if he obeys the law?

ANOTHER BAY STATE MOTORIST.

West Lynn, Mass.

Sugar an Aid in Touring.

Editor THE AUTOMOBILE:

Sir:—I have just returned from a very enjoyable trip in my Oldsmobile to the White Mountains and wish to say that if a man cares to take things easy and not try for record runs there can be no more delightful trip in the world than from Boston up through Portsmouth and Rochester, along the eastern side of Lake Winnipiseigee, through North Conway to Crawford's; then on the return going down through Fryeburg, Bridgton, Brownfield and Sebago Lake to Portland, thence along the coast to Portsmouth and back to the Hub again.

Through the White Mountains the roads are generally good. Hard as asphalt and drying quickly after rain, they are ideal for automobiling, and many people, I am told, have found the mountain route an attractive one this summer.

There are some treacherous bits of road to be avoided in the mountain trip, however. One is the Crawford notch, where an abrupt turn brings one over a little bridge across the cascades and up a sharp pitch with a grade steeper than any encountered in climbing Mt. Washington by the carriage road. It was at this point that Harry Fosdick and party, who were trying to beat the record on a trip from Boston, came to grief recently, and were obliged to have their car shipped back to Boston.

The only thing to avoid in the mountains is this record chasing. Any person who tries record breaking "stunts" on the mountain roads is pretty sure to meet with trouble. I did not have an accident on

AT THE TOP OF MOUNT LEBANON, BERKSHIRE HILLS.

the entire trip, nor have I in other trips, for that matter, and I believe it has been simply because I have been satisfied to take things easy and not try to beat the other fellow.

The principal thing up in that section of the country is for one to try not to scare the horses. At a general rule, the farmers' horses up there are pretty timid, and they are nearly all afraid of an automobile. I have found that there is nothing better than to have a couple of pounds of lump sugar along. Have your sugar handy, and when you meet a horse that shows signs of becoming frightened, especially if a woman is handling the reins, stop the machine and get out and walk slowly up to the horse and give him a lump of sugar. Then back away from him toward the machine and get him to come to you for another lump. When you get back to the car, hold out another lump of sugar, and ten chances to one he will walk right up and take it out of your hand. If he will not come up to the car, he will at least pass by it without attempting to run away, and you have accomplished something by teaching him that an automobile is not a thing to be feared.

Of course, if you are after records and do not wish to take the time to see that drivers of horses are not killed by their horses running away from fright caused by your dashing past them, the sugar plan may seem very foolish. The writer, however, is fond of horses, and as he is never pushed for time, a few minutes spent in quieting a timid horse is never thought to be time wasted. Horses will eventually become accustomed to automobiles, but it is my belief that the automobilists should be willing to go to some pains to help to educate the horses.

W. F. KELLIHER.

Boston, Mass.

Difficulties of Single-Handed Touring.

Editor THE AUTOMOBILE:

Sir:—I send you a photo of a mud-hole on the road from Saratoga to Schuylerville that I was obliged to go through (as there was no way to get around) and in which I was stalled up to my hubs.

The photo shows the position in the

MIRED BETWEEN SARATOGA AND SCHUYLERVILLE.

rear from which I pulled her, single handed, with my anchor and treble-block tackle, in one hour ten minutes.

I made this last trip entirely alone in my Autocar, carrying a full camp outfit and an axe and shovel with me.

HUGH L. WILLOUGHBY.

Newport, R. I., Sept. 16.

Floral Auto Parade for Omaha.

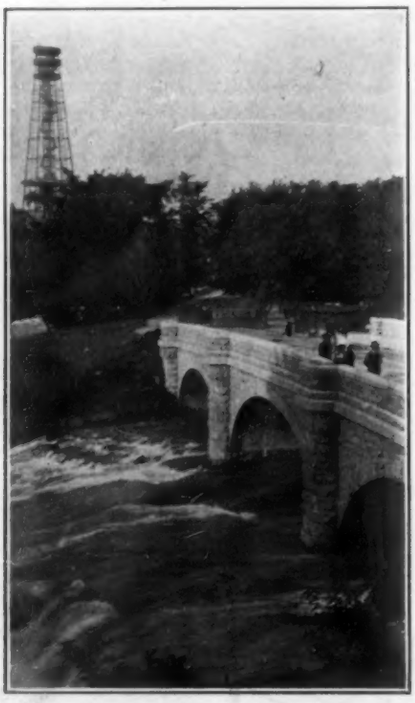
An elaborate automobile flower parade is to be a feature of a carnival to be held in Omaha during the week beginning October 5. The carnival is an annual affair, promoted by the Ak-Sar-Ben Society, a number of members of which are enthusiastic automobile owners. Thirty entries for the parade have already been received and it is anticipated that some of the cars will be elaborately decorated. The promised event is creating great interest in Omaha and vicinity.

Detroit automobile agents report that notwithstanding very bad weather, enthusiasm in the pastime and sport is still high and country runs continue regardless of mud which is hub-deep in all the lower part of Michigan. The sale of cars is still satisfactory.

BUFFALO CLUB RUN TO NIAGARA FALLS A BIG SUCCESS.

Special Correspondence.

BUFFALO, Sept. 19.—Nearly 125 members of the Automobile Club of Buffalo in many kinds of machines, started from the City Hall this afternoon in the third run of the season, with Niagara Falls as their destination. With ideal weather and inviting roads, the attendance was all that was expected. The automobilists began to assemble early in the afternoon, and autos of all styles lined up in front of the City Hall.



PICTURESQUE BRIDGE OVER RAPIDS AT NIAGARA FALLS.

Mayor Knight, Frank W. Hinkley, his secretary, and Superintendent of Police Bull were in attendance and were placed in one of the Pierce motor cars in charge of Percy P. Pierce. President Hotchkiss and Secretary Wagner, of the club, were on hand promptly.

The start was made on time. A close line of automobiles several blocks long reached out from the City Hall and stretched out Delaware Avenue. When near the city line, all regular order was abandoned and the cars sped away. At Niagara Falls the Buffalo automobilists were joined by Toronto auto owners and the Mayor of Niagara Falls. Dinner was served at the International Hotel and the return trip to Buffalo was started at about 8 o'clock.

With the exception of a few minor mishaps, such as punctures and slight breaks, everything went off smoothly and the run was declared the best of the season.

DRASTIC LIGHT AND REGISTRATION ORDINANCE IN LOS ANGELES.

Special Correspondence.

LOS ANGELES, Sept. 12.—Our wise and honorable city fathers have just prepared another city automobile ordinance.

They were not content with setting the speed limit at eight miles an hour—and motorists here keep well within a reasonable limit—but they passed an ordinance, requiring all automobiles to stop and give the right of way to horse-drawn wagons and carriages, and that the driver of the automobile must stop immediately when signaled to do so by the driver of a horse or horses.

And here comes another, decreeing that every automobile must have a large distinguishing number that can be seen at a distance in the daytime and which must be illuminated at night. Arabic numerals must be used, and they must be five inches in height, five-eighths of an inch wide and three-fourths of an inch apart. They must be white on a black background or plaque at the center of the machine in the rear. All automobiles will be registered in a book kept by the city clerk.

Between sunset and sunrise the automobile must carry a red light and also a white light trained on the number of the machine.

Failure to observe all of the regulations in the ordinance makes the driver liable to a fine of from $1 to $100, or not more than fifty days' imprisonment in the city jail, or at hard labor on the city's rock pile.

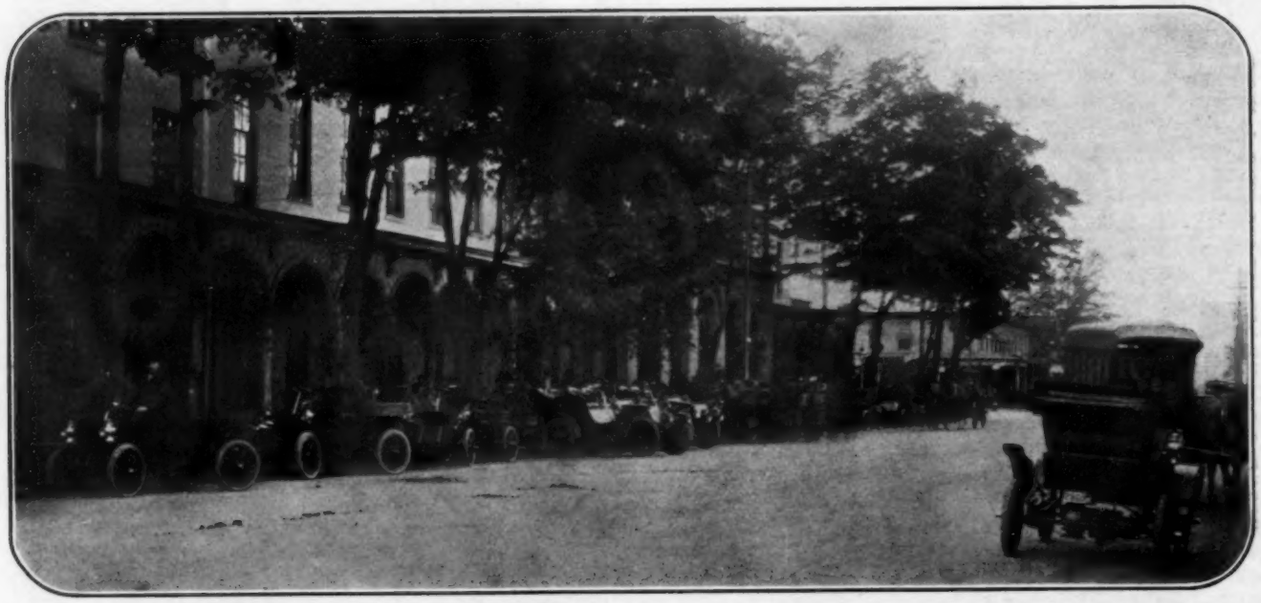
This ordinance was prepared by the City Attorney, on motion of Councilman Bowen, and as Bowen is now Acting Mayor it is almost certain that it will be signed and become a law, barring recourse to the direct-legislation provisions of the city charter.

It is to be hoped, however, that some action will be taken by the automobile clubs here to overcome the disfavor in which automobilists are held in the minds of conservative and prejudiced individuals.

ACCIDENT AT VERMONT RACES CAUSES ONE FATALITY.

An automobile driven by Dr. John M. Allen, in a race at the Caledonia County Fair, at St. Johnsbury, Vt., on September 17, dashed through the outer fence on one of the turns and fell down a fifteen-foot embankment, causing the death of Herbert Lamphere and severely injuring Dr. Allen and a spectator named French Garrick.

Dr. Allen was leading in the race and was averaging a speed of about forty miles an hour, when he apparently lost control of the car on one of the turns. Lamphere was riding in the car for the purpose of balancing it when taking the

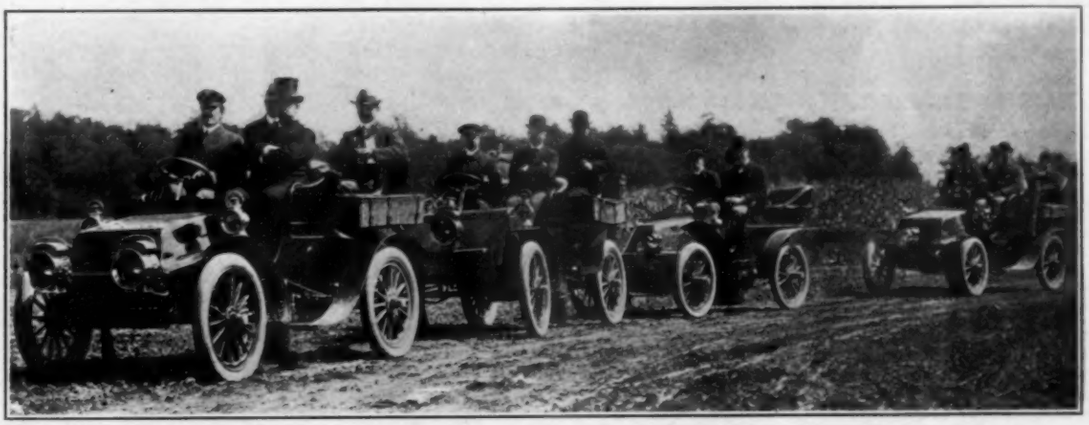


CARS OF THE AUTOMOBILE CLUB OF BUFFALO IN FRONT OF THE HOTEL AT NIAGARA FALLS.

curves. His head struck a post and he was almost instantly killed. The car overturned as it left the track, and the

From the steel plant the party proceeded to the summer home of Mr. Roberts at Wanakah, where the Governor took

hours. I used a stock machine, not one specially geared, and only went in to prove that motor bicycles can be ridden



GOVERNOR ODELL AND PARTY GOING TO ERIE COUNTY FAIR.
The Governor in Leading Car, Pres. W. H. Hotchkiss of A. C. of Buffalo, Driving.

doctor was caught under it. His left arm was dislocated at the elbow, both legs were broken, and he received a bad wound on the nose.

French Garrick, the spectator who was struck, was sitting on the rail, or outer fence, with three companions. He alone was hurt, one of his eyes being injured. Lamphere was twenty-one years of age.

GOV. ODELL AND PARTY GIVEN A DAY'S AUTOMOBILE RIDE.

Special Correspondence.

BUFFALO, Sept. 19.—Probably foremost among the many pleasures Gov. Benjamin B. Odell, Jr., of New York State, experienced during his recent visit to Buffalo, when he attended the Hamburg Fair, was an automobile ride given him by the members of the Buffalo Automobile Club. The Governor was here last Friday. When he stepped from the train he felt indisposed, but recovered after a brief rest at the hotel and the attendance of a local physician. After he had breakfasted at the Ellicott Club, five fine automobiles drew up in front of the Ellicott Square and the Governor and his party started in the big cars from the principal street of Buffalo and made a run to the big Lackawanna steel plant, which was inspected. Secretary F. J. Wagner, of the Buffalo Automobile Club, with John T. Roberts, representing the officials of the fair, as a guest in his car, led the way to announce the Governor's approach at places between Buffalo and Hamburg.

President William H. Hotchkiss, of the Automobile Club, followed with Governor Odell, William C. Warren, editor of the *Commercial*, and John A. Kloepfer, president of the Hamburg Fair Association. Then came the cars of Percy P. Pierce, H. C. Wilcox, Dr. Truman J. Martin and W. C. Jaynes, who are to be seen in the accompanying photograph.

luncheon with guests his host had invited to meet him. From there the Governor went to the fair and delivered his speech.

CHANGE OF PRINTED RULE CHEATS MOTOR CYCLIST OF REWARD.

The award of the special non-stop prize in the four-hour motor-bicycle race held in connection with the formation of the Federation of American Motorcyclists, has brought out a point in controversy. The entry blanks stated that this prize would go to the "first contestant covering the four hours without a stop." The chairman of the committee in charge of the events discovered too late that the wording was not as intended and the correction was made on the program so that it read "covering the greatest distance without a stop." The referee of the meet states that he announced the change at the line-up, but among the starters, E. J. Edmond, who last year won the consumption test on the Auto-Bi, denies hearing the notification. He is supported in this by the man who pushed him off.

Edmond on his Auto-Bi, rode the full four hours without a stop and was the only contestant to complete the race without having any troubles or making adjustments to his machine. Naturally he expected to receive the non-stop prize. The keenness of the disappointment of Edmond and his friends, on learning of the award to Murphy under the changed conditions, and the knowledge of how he pluckily rode for the last two hours was additional proof that he continued under the entry-blank meaning. For two hours he rode holding a loose nut on the air poppet of his mixer against the possibility that it might move enough to shut off the air supply. As he put it, after the award was made to another: "Certainly, if I had been properly notified of the changed rule I would not have continued to ride in that cramped position for two

at good speed for an indefinite distance. That was what I understood the spirit of that special non-stop prize to be, not to jam a specially-geared machine through in any way, trusting to luck for the distance."

Express Train Strikes an Auto.

Speeding at nearly fifty miles an hour, the Bar Harbor Express, which left New York at 9 P. M., Tuesday, September 15, struck an automobile on the Old Tavern crossing at Windsor Locks, Conn., fifteen miles south of Springfield.

The automobile, which was totally wrecked, was occupied by John E. Bishop, of Boston, and John M. Reed and William D. Reed, of Springfield. Bishop and William Reed jumped in time to escape, but John Reed, who was in the tonneau, was thrown fifty feet. His injuries were not serious, however, and he was taken to his home. The fact that he fell into a clump of bushes probably saved his life. The automobile was hurled the length of the crossing and over the embankment.

Operator Punished on Assault Charge.

George W. Folsom, chauffeur for J. Montgomery Sears, of Boston, was sentenced to six months in the house of correction at Worcester, Mass., at the session of the court in that city on September 10, on a technical charge of assault, resulting from the careless driving of an automobile in Worcester on June 16. Folsom, with two others, was in an automobile on the night of June 16 that struck a light carriage on the road near Lake Quinsigamond. The carriage was smashed and a young woman occupant was thrown out and injured. The three occupants of the automobile were later arrested on charges of assault, but Folsom, who operated the car at the time of the accident, was the only one held, and he was found guilty. He appealed from the sentence and bail was furnished.

THE AUTOMOBILE

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SATURDAY, SEPTEMBER 26, 1903.

THE NEXT THING IN TRACK RACING.

In the light of recent events it would seem to be satisfactorily settled that the minimum time in which a mile dirt track, banked for two-minute speeds, can successfully be negotiated by rubber-tired vehicles is in the close neighborhood of 55 seconds. Possibly that figure may be cut a second or two, but for every man who does so it seems at least likely that another will break his neck in the attempt.

What then? Is track racing to languish because every one knows a record cannot be bettered? Or are the automobile races of the future to appeal, like bull-fighting, to the primitive lust for blood? Assuredly not; but what is to take the place of the present hazardous attacks on records?

The answer is: closer competition. Let track managers give a larger share of their programs to match races, one-design races, pursuit and handicap races. Such contests are more difficult to organize than the present "drawing cards," but they are far less costly: and to the public they are quite as exciting in a far more wholesome way. As soon as the entry lists will warrant it, the lines of classification should be drawn closer, to prevent such processions as now constitute most of the events. The system of classification by records made, suggested in our Cleveland correspondence this week, will ensure good sport when entries enough in any given class can be had. Until then, a judicious system of handicapping would add greatly to the interest of any program. It seems not too much to suppose that such a system may before long be found.

A FEW NEEDED CONVERTS.

As everyone knows, certain of the metropolitan daily press have, for this long time past, made it their frequent habit to indulge in remarks not wholly friendly on the subject of automobiles and automobilists. Indeed, painful as it is to reflect upon, the estimable gentlemen who pen the editorials of these molders of public opinion have at times gone to the length of describing the health-giving automobile as a Juggernaut, its beneficiaries as persons who miss being criminals only by good luck, if at all, and the sport in general as fit only for degenerates and lunatics. And no doubt many readers of these fulminations have wondered at the composure with which they have been received by representatives of the class maligned.

The reason is that the motorist, with clearer eye than his fellows, perceives in these atrabiliar attacks only the sad consequences of editorial failure to seek health and good spirits at the fountain head of both,—judicious use of this same automobile. The hard names he forgets, remembering his own more substantial blessings. For the editorial spleen he has only pity.

But, knowing though we do the true benevolence of the motorist's heart toward those who in their blindness curse him, we yet must recognize the fact that the standing and circulation of these papers lend a factitious weight to their counterblasts which could well be spared. The editors, hardened in their error, would no doubt far sooner fling their money into the sea than invest it in these wheeled inventions of the Adversary. Surely, then, the cause deserves a little self-sacrifice on the part of those who know its worth. Who can estimate the jaundiced columns turned to joyous, the fresh converts made, the influence on legislation and popular good-will, if automobilists were to subscribe together and present to the editors of, say, the New York *Tribune* and *Times*, the Chicago *Record-Herald* and *News*, and the Brooklyn *Eagle*, brand-new automobiles of the latest pattern? Some one should see to it without delay.

WATER-TUBE BOILER EXPLOSIONS.

Several reported explosions of a water-tube carriage boiler claimed by its makers to be explosion-proof, suggest the need of a clearer distinction, in the minds of users at least, between the qualities of water-tube and flash generators in this regard. The failures referred to were consequent on letting the boiler go dry, which caused the tubes to become red-hot, and then starting the pump and injecting water into the tubes.

Everybody knows that treatment of this sort will ruin the common fire-tube boiler, and that it will be a very good boiler if it does not burst. Most people know, too, that the normal working condition of the flash generator, if it does not exactly fit the procedure just described, differs from it mainly in degree and in the fact that the water is injected continuously in proportion as used. Yet the flash boiler never did, and is not likely to, explode, for the simple reason that the tubes are excessively thick, and that, if one of them should burst under the violent extremes of temperature to which it is subjected, the quantity of water in the tubes is too small to get up an "explosion." Where, between these extremes, does the water-tube boiler stand?

If in such a boiler nothing is exposed to the flame but small tubes, it is probable that no serious failure can occur under any circumstances. The tubes, indeed, will not resist "burning" and chilling with cold water indefinitely; but the split, when it comes, is not likely to be so extensive as to liberate the confined water and steam with anything approaching the instantaneous rapidity characteristic of a fire-tube boiler's explosion. But in all water-tube boilers the ends of the tubes must open into one or more drums or headers of some sort, which frequently contain more water than the tubes themselves. If these drums have flanged and riveted seams, and if they as well as the tubes are exposed to the flame, it needs only sufficient burnings to produce a crack which, once started, will tear a wide rent in the drum, permitting the confined water to flash instantly and with destructive violence into steam. The explosions referred to would seem to have been caused in this manner, and every owner of a water-tube boiler would do well to satisfy himself that no part in which a crack once started can spread rapidly is exposed to flame.

THE BOSCH MAGNETO.

It will no doubt occur to readers of the article on the Bosch magneto, on another page, that its very admirable principle, by which a hot primary spark is obtained in the cylinder without moving parts, is not inseparably connected with the use of a magneto generator to furnish the current. An ordinary spark coil, wound as is the armature of the Bosch magneto, could be made to give the same results. It would, of course, have to be redesigned, as the secondary wire on present coils is generally too small to carry the current of the primary spark without overheating: and the whole coil might have to be made somewhat larger than is now usual. The consumption of current might perhaps be too rapid for the average battery, rendering a generator necessary. On the other hand, the spark would do all that a heavy

spark can to secure rapid inflammation of the charge; and this, in a cylinder of good size and high compression, is a point on which much in the way of power may depend.

An Indiana motorist, driving at night, lately ran into an unlighted timber barricade erected at a tollgate to ensure the payment of toll. He was not familiar with the pike, and he and his machine were injured in consequence. Now he is suing for damages. Are there any other tollgates kept in this way?

An English contemporary suggests carrying a little sand in a pocket when driving, and using it to blind, *pro tem.*, vicious dogs that cannot otherwise be shaken off. This is better than shooting them, and in the end it is a kindness as well as a lesson to the dog, who would otherwise probably end his career under somebody's wheels.

A Pennsylvania ruralite, who lately won an automobile in a raffle, managed to get himself "h'isted" by his prize twice within a month, with much resulting damage to himself and others. That may not prove that raffles are wicked, but it at least suggests that those who organize them ought to give a course of instruction with the machine, or else confine their attractions to things that don't "go."

The wholesale captures of motorists, in certain Long Island towns where the stop-watch method of obtaining evidence is in vogue, simply go to show that the legal limit is lower than the ordinary driving pace, not of the scorchers alone, but of every motorist. Consequently, either every machine is dangerous all of the time, or the limit is too low. Automobilists know this, but there ought to be some way of impressing it on the powers that be.

Were it not for the dreadful truth before our eyes, mankind at large would probably have denied the possibility that a body of lawmakers so eminently wise, scholarly, and irreproachable generally as the Massachusetts Legislature ought to be, could make such an unqualified mess of any law whatever as it has made of the new automobile statutes of that State. The automobilists can stand it—after a fashion; but, Shades of a cultured past! what a jolt to the pride of the old Bay State! In the days of Lowell and Emerson the meanest son of the Commonwealth could at least express himself in his native tongue; but last spring Major Higginson and all his cohorts, after travail lasting for weeks, could bring forth nothing that would not excite the risibles of the first man that could turn a starting crank. It is very sad, of course, and we could weep if we didn't have to laugh. After all, perhaps it merely shows that the true intellect of Massachusetts is to be found, not among the cohorts aforesaid, but—er—elsewhere.

Track Accidents and their Causes.

The true cause of an accident to an automobile traveling at very high speed is seldom to be determined off-hand. A car is moving swiftly around a turn: on a sudden it leaves its course and plunges into the fence, crushes any one in its path, overturns, perhaps, and maims or kills its driver. Five seconds, or four, or three, and the thing is done. The spectators, unused to such scenes, retain conflicting impressions of what they saw. The machine is damaged in so many places that even an expert may be unable to say which part gave way first. The driver, if able to tell a coherent story at all, often feels his lips sealed by his obligations to his employers. Consequently the public is made to believe that the driver averted serious consequences by a display of superhuman skill, or, if a fatality followed, that the circumstances were too exceptional to be repeated.

It has seemed worth while to sift carefully the testimony of a number of eye-witnesses, all of whom were in good positions to see what occurred, in order to present as nearly as possible the true causes of the more important accidents connected with the recent meets at Cleveland, Detroit, and Milwaukee. There is every reason for believing the following particulars to be as trustworthy as can be obtained.

At Cleveland and Detroit.

The collision between the electrics on Saturday at Cleveland occurred as reported. The accident to Schmidt, on Thursday afternoon at Cleveland, appears not to have been caused by trying to avoid another car on the track, as there was no such car there at the time. A failure of the steering gear may have been responsible, as a broken bracket forming part of this mechanism was noticed after the accident. At all events, the car was immediately repaired, and was driven by Cunningham in the Detroit races.

On the second day at Detroit, in the five-mile open, the left rear tire of this car burst about midway of the turn after leaving the backstretch, and the car swerved first into the rail, damaging the latter slightly, and then seemingly shot almost straight across the track, where by great good luck there was a gap in the fence from which a narrow road led. Cunningham managed to guide the car down this road, and brought it to a stop near the paddock, where it was found that the wheel had been damaged after the tire gave way. In consequence of this, the two rear wheels were changed, and the car appeared in and won the next event, which was the ten-mile handicap.

In the handicap race the right front tire of Page's Decauville developed a leak from which it soon went flat. Page, coming down the home stretch, pointed to the tire to signify that he was out of the race, and slowed down to approach the outside of the track at the beginning of the turn. At this point the Olds "Pirate" passed him, and this seemed to be more than Page could stand, for he put on speed again, only to lose control of his car altogether about the middle of the turn, where he went into the mire which covered the inner part of the track, broke through the rail, and lost his two front wheels. Page himself jumped clear and was not hurt.

The accident to Oldfield occurred as he was approaching the front stretch. An outside tire, apparently the front tire, burst just beyond the point where Cunningham's tire had burst in the five-mile open. The car escaped control instantly and left the track rather wide of a true tangent to the course, smashing through the fence just after the sound of the exploding tire reached the grandstand. Oldfield fell backward from the car, which act cost him a broken rib and severe bruises and lacerations across his shoulders, but unquestionably saved his life. Just outside of the fence is a steep bank sloping downward to a row of poplar trees parallel to the track. The car, instead of going straight down this bank, was held by its momentum to a long angle. As it went down it missed two trees and struck another, embedding the end of one of the wood frame sills deep in the trunk. It swerved completely around, disengaged itself from the tree, and stopped a little farther on, pointing against the direction of its course. The paddock was near this point, and some few spectators, perhaps twenty-five or thirty, were scattered along the fence. Two of these dodged the car as it broke through, but the third, Frank Shearer, standing near them, jumped the wrong way. He was hurled 70 feet by the car and died, terribly injured, within a few minutes.

At the Detroit track, there are two iron fences skirting the track in front of the grandstand, and there were no spectators beside the track at this point. It seemed impossible, however, to keep them away altogether from the fence in front of the paddock, to which curiosity to look at the machines drew them in some numbers. They were warned away a number of times, but those leaving the fence were quickly replaced by others.

The Day Accident.

The track on which Frank Day met his death, on the closing day of the Wisconsin State Fair at Milwaukee, was not banked, and, owing to the weather and to some horse races held just previously, it was in very poor condition for automobile racing. The immediate cause, however, of the "999" leaving the track at the turn appears to have been nothing more than the recklessness of Day himself, whose ambition to establish a record led him to put on more speed than the track could stand.

Charles L. Kennedy, a well-known newspaper man, who was within fifty feet of the machine at the time it struck the fence, made the following statement: "It is my opinion that the centrifugal force generated by the extreme speed at which it was traveling when the turn into the stretch was reached, simply carried the auto sidewise into the fence. I believe that if Day had had five feet more room he would have been able to get the line up the stretch. The trouble was that the machine slewed on a chopped-up, sandy and pebbly surface of a track that had an extremely hard foundation due to the rain and a baking sun. I am also of the belief that when Day started on the fourth lap he turned the machine loose for the first time in its history at the full limit of its speed for the purpose of making himself famous as a daring and spectacular chauffeur. There was no suggestion of slewing at this turn that I could observe on the first three times around. The turn is a murderous one for that sort of an exhibition."

G. D. Stuart, of Ann Arbor, the manager of the Cooper racing machines, thinks that Day lost control of his car. "There was no explosion of the tires until the machine struck the fence," he declared. "In running these races it is necessary to keep close to the outer fence at the sides and cut across close to the inner fence at the turns. In making his third mile, Day came dangerously close to the outer fence. The next time he was nervous and kept too close to the infield fence at the sides, and when he came to the turn shot across into the outer fence. The rear wheel struck first, then the front one, which flew about 100 feet into the grounds. Day seemed to have braced himself to stay with the machine. Had he been thrown out, he would still be alive."

Edward Huff, who was to have driven the "999," ascribed the accident wholly to the faultiness of the track. "When I made a mile in 1:08, I came near having an accident in the same place and in the same manner," he said. "It was for that reason that I refused to drive to-day. Day was a mechanical man and familiar with the machines, and he was assigned to take my place. I think that the theory that a tire came off is entirely incorrect. I believe that when the machine struck the turn it was going at such a rate that the centrifugal force threw it outward against the soft bank. This bank was so soft that instead of resisting the pressure it allowed the machine to swerve against the fence. I saw this danger Friday and cautioned Day not to try to make it in less than 1:08."

Carriage manufacturers state that though many sales may have been lost through the advent of the automobile, the demand for buggies has grown so rapidly during the past few years that the effect of the automobile on the buggy trade has not been felt at all.

THE PARIS-TROUVILLE MOTOR BOAT CONTESTS.

THE MERCEDES AND NAPIER WIN.

The German Launch Makes Best Time Down the Seine, but the English Boat Captures Gaston Menier International Trophy and Wins Nautical Mile Trials.

The Paris-Trouville motor boat race of 1903 came to an end off Trouville on Saturday, September 5, when the Gaston Menier international challenge trophy was won by the Napier boat, which also won the nautical mile contest, thus depriving the *Mercedes* of the proud distinction of winning every race in the tournament, which had been hers up to the last moment, when she met defeat in the two most important events of all.

In the Gaston Menier race there were four entries, the *Napier*, *Mercedes*, *Flore* and *Loute*, representatives of England, Germany and France. The *Napier* and *Mercedes* were very evenly matched. The *Flore* was withdrawn and the *Loute* finished a bad third. The race was over a selected sea course of three nautical miles. The *Napier's* time was 11:29 1-5 and *Mercedes* finished just 30 seconds later. The English boat was driven by a motor of nearly double the power of the German contestant, but this advantage was perhaps nullified by the increased displacement and size of the *Napier*.

The Nautical Mile Contest.

The international contest was preceded by a race over a nautical mile in which interest centered, as in the Gaston Menier competition, in the comparative performances of the *Napier* and the *Mercedes*. The English boat, piloted by a young woman, Miss Dorothy Levett, defeated the German boat by the narrow margin of 20 seconds. The *Napier's* time was 3:30 3-5.

The Races at Rouen.

Second in importance to the races that terminated the Paris-Trouville tournament were some interesting speed trials at Rouen, the destination of the third day's run, over a measured course of 1,852 meters (6,076.41 feet) for a prize offered by the River Club, a local yachting organization. In this special race the best time was made by the *Mercedes*—3:33 2-5. The *Flore* was second in 4:17 3-5. The *Loute* was third in 6:06 2-5. In the cruiser class the *Korrigan* won in 6:27, with the *Camelia* second in 6:50 1-5 and the *Marthe* third in 7:16. The *Elsie* won a special prize for using alcohol as fuel, her time being 8:02 3-5.

Notes of the Tournament.

The contest was organized by *Le Velo* and the *Yachting Gazette*. Prizes were awarded by the Municipal Council of Paris, the city of Rouen and the Chamber of Commerce of that city, Gaston Menier, the Duc Decazes, and the tradespeople of Mantes. There were many small prizes as well as cash awards to the value of $1,200. With the exception of the silver medal awarded by the Municipal Council of Paris, which was for the best all-round performance, the other prizes were offered for superiority over certain sections of the course. President Loubet gave a prize especially for cruisers.

The Gaston Menier international trophy was the most coveted prize of the tournament. The donor, a millionaire yachtsman, offered the trophy with no other condition than that the length of competing boats should not exceed 49.21 feet. The race is to take place each year after the Paris-Trouville tournament, and all boats taking part therein are permitted to enter the Gaston Menier international race without additional cost, whereas other competitors must accompany their entries by a fee of $96.50 each.

If the international race is won three successive seasons by a motor boat of the same make, the trophy is to become the property of the victorious manufacturer.

Facts About the 1903 Competitors.

The *Mercedes*, which won the daily stages of the Paris-Trouville, was fitted with a standard 35-horsepower Daimler motor. The *Flore*, second, was equipped with a 20-horsepower Otto engine, and the *Musette*, entered by MM. Vinot-Deguingand, was driven by a Vinot motor of 18-horsepower. These were the only racers competing in the contest as a whole, although there were many additional racing boats originally entered, some of which took part in the special events at Rouen and Trouville. There were twenty-three starters in the cruiser class, including the *Korrigan*, driven by a 20-horsepower Gillet-Forrest motor; the *Marthe*, 20-horsepower Gardner-Serpollet (steam), and the *Narval*, a 32-horsepower Gobron-Brillie engine, using alcohol for fuel.

Considering their high power, the racing boats seemed wonderfully small. The 35-horsepower *Mercedes* boat is 32.81 feet long and her draft is just a trifle less than two feet. The *Flore* is 26 feet long and 1.6 feet draft. The *Musette* is 29.5 feet over all and slightly over one foot draft.

Before the start much disappointment was felt by a number of would-be contestant who were disqualified at the last moment for failure to fulfill the rigid preliminary requirements. Other boats, among them being the 66 1-2 horsepower Napier launch which was sent over from England and made such a splendid record at Trouville, were disqualified from participating in the daily river trials for not being provided with means to reverse.

Although the King of England is technically exempt from all restrictions of the law, King Edward has instructed his secretary to give strict orders to his chauffeurs to obey the provisions of the new motor act, which limits the speed of automobiles, thus setting his subjects a good example.

NEW VEHICLES

The Six-Wheel "Pullman" Car.

With the object of reducing the liability of side-slip or of eliminating it altogether, and at the same time increasing the comfort of riding, the designer of the automobile shown in the accompanying engraving has departed from generally accepted lines in a marked degree. His car is fitted with six wheels, the front and rear pairs of which are connected and move together in steering, while the middle wheels are the drivers. The middle or driving axle forms a support for two sets of long semi-elliptic springs, the outer ends of which are held by the front and rear axles. In other words, these springs, which support the body on equalizing lugs, form the frame of the car, assuring great flexibility and consequent easy riding.

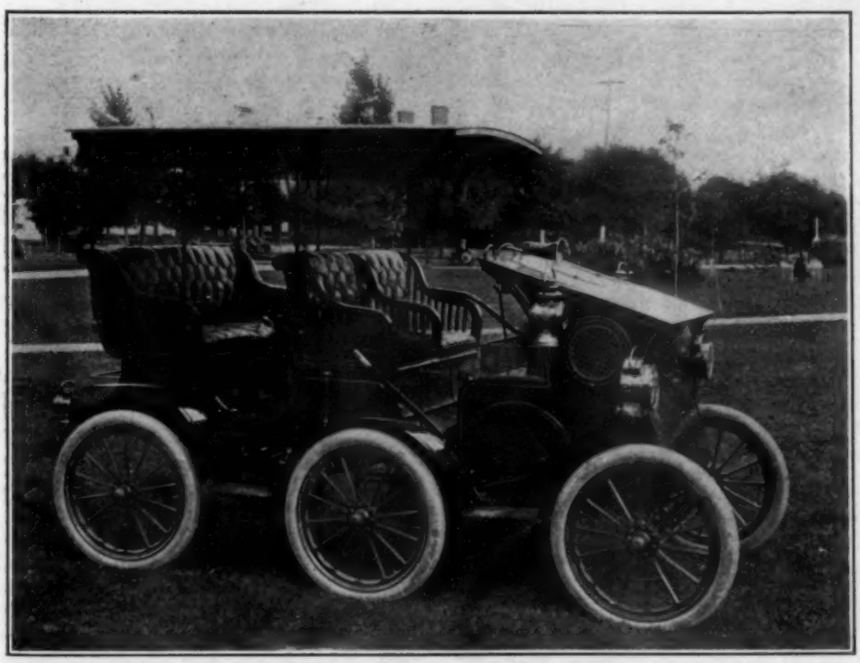
The wheelbase is 96 inches, the tread is 62 inches, and the over-all length of the car 10 feet 8 inches. The wood wheels are 32 inches in diameter, fitted with 3-inch double-tube tries.

The car is driven by a 20-horsepower, double opposed-cylinder motor, mounted in front within the vehicle body, and readily accessible after lifting the protecting hinged door forward.

The transmission is of planetary type, chain driving to the differential which is mounted on the middle or driving axle. The gasoline tank, of 13-gallons capacity, is placed under the front hood, and the water tank is under the middle seat.

The "Pullman" car, as the vehicle is called, is equipped with a number of novel conveniences, including storage spaces in the front and rear seats. A space is also provided under the body in which extra tires can be carried, entirely out of sight. The curved sides of the rear seat are carried forward in the form of a scroll that terminates in a transverse pole for laprobes.

This novel vehicle was designed by A. P. Broomell, of York, Pa., president of the Broomell, Schmidt & Steacy Co., of York, extensive manufacturers of steam specialties, in whose shops the "Pullman" car was built.



BROOMELL SIX-WHEEL, 20-H. P. GASOLINE "PULLMAN" CAR.

Daimler Surrey for the Tropics.

A large automobile of distinctly foreign type, which has been seen in New York and the vicinity during the present month, has created more than usual interest because of its great length and its novel body. This car, shown in the accompanying illustration, is to be shipped to Ecuador, South America, in the near future, where it will be used as a passenger conveyance.

The vehicle was built by the Daimler Motor Company, of Steinway, Long Island, and the chassis closely follows standard Daimler-Mercedes design in all important features. The wheelbase, however, is twelve feet, as the length of the frame was necessarily increased to accommodate the large body, which is of combination surrey and tonneau type.

DIAMLER 30-H. P. ELEVEN-PASSENGER CAR FOR THE TROPICS.

There are two individual seats in front, two double seats in the center and a tonneau in the rear. Entrance to the tonneau is effected by raising a section of the second double seat. The seats, which are upholstered in rattan, are protected by a large canopy top and side curtains also are to be provided.

The motor is of standard four-cylinder Mercedes type developing 30 horsepower. The transmission is designed for four forward speeds and a reverse. It is said that the car has been tested to a speed of forty-five miles, although the contract for its construction guarantees a speed of only twenty-five miles. The car will comfortably seat eleven persons.

The Daimler company is now building two duplicate cars for similar service, which are to be shipped to the same destination about October 1.

Whitten and Clark have just remodeled and fitted up a large salesroom and garage at 282 and 284 Worthington Street, Springfield, Mass. There is floor space for forty vehicles and a well-equipped repair shop in connection.

The Winton Motor Carriage Company will not be officially represented in the endurance run from New York to Pittsburg, as the Winton people are at work on a new model which will not be completed in time for the tests. "We are satisfied with the laurels we have won this year," said an official of the company, "and our machines will enter no endurance tests until our new model is completed."

Final Details of Endurance Run.

Final arrangements are now being made for the New York-Pittsburg endurance run, promoted by the National Association of Automobile Manufacturers, the entry list for which was closed at 4 o'clock Tuesday, September 22.

Requests for a list of the entries received or a statement of their number have met with the statement that the list would under no circumstances be made public until Friday, the object being to await the arrival of any entries mailed at distant points before 4 o'clock Tuesday. It is unofficially understood, however, that the number of entries is much smaller than was expected, owing probably to the severity of the conditions and the course.

The itinerary of the run is being published in pamphlet form and also in pads or blocks for the use of the contestants, the observers to tear off the sheets in succession as the sections of the road to which they apply are passed over. The information contained in the pamphlet and blocks is complete and minute, and the arrangement is such as to make it invaluable for ready reference. The names of the towns on the route are printed in large type at the right, followed in smaller type by the miles distant from New York, the direction of travel, the grades encountered, landmarks passed, bridges and toll roads, local speed limits, road conditions, and names and location of gasoline, oil and water supply stations.

The pamphlet closes with a list of all garages where arrangements for accommodation have been made, names and location of hotels, with the number of tourists each will accommodate and a list of special gasoline supply stations at which arrangements have been made for the sale of gasoline in 5-gallon cans to prevent delay.

Features of the Run.

All cars entered in the endurance run must be reported, with full equipment, prior to 9 o'clock on the morning of Monday, October 5, at official garage No. 1, the New York Transportation Co., 49th Street and Eighth Avenue, N. Y., where their weights will be recorded and official seals attached.

October 6, Tuesday, the run starts at Weehawken, N. J. Operators must report to the starter not later than 7 A. M. The cars will be sent away at 30-second intervals, as nearly as practicable in the order of their weighing in on the previous day. The noon stop will be at Newburg, 58 1-4 miles from New York; lunch and water supply at Palatine Hotel; gasoline at S. V. Cole's store; night control at Pine Hill (130 3-8 miles); official N. A. A. M. headquarters, Pine Hill Hotel; official garage an eighth-mile before reaching hotel, on right-hand side of road.

October 7, noon stop at Unadilla; lunch at Bishop Hotel or Unadilla House; gasoline at S. D. Haight's or R. O. King's hardware store, opposite Unadilla House; night control at Binghamton (236 miles); official garage R. W. Whipple's automobile station; official headquarters at Hotel Bennett.

October 8, noon stop at Elmira, (298 1-2 miles) lunch at Rathbun Hotel; gasoline and water, Elmira Arms Company; night control at Bath; official garage N. A. A. M. headquarters at the New Nichols Hotel.

October 9, noon stop at Geneseo; lunch and water at Big Tree Inn; gasoline at Fraser, Green & Leadingham's; night control at Buffalo (462 1-2 miles); official garage on Main Street, one-quarter mile north of the Genesee Hotel; N. A. A. M. headquarters at Iroquois Hotel.

October 10, noon stop at Fredonia; lunch at Columbia Hotel; water and gasoline at Belden & Leworthy's, 11 Maine Street; night control, Erie, Pa.; official garage at Dunns' Livery Stable; official headquarters at Reed House; stay over Sunday here.

October 12, Monday, noon stop at Geneva, Ohio; lunch at Turtle House; gasoline and water at Haines & Kingman's store; night control at Cleveland; official garage, White Sewing Machine Company's automobile station; N. A. A. M. headquarters Hollenden Hotel.

October 13, noon stop at Warren, Ohio.; night stop at Youngstown (729 1-2 miles); official garage in City Scale lot; N. A. A. M. headquarters at Tod House.

October 14, stop for lunch at New Brighton; gasoline at Ross & Sager's paint store; finish at Pittsburg; official garage, Banker Bros. Company's automobile depot; Association headquarters at Hotel Schenley.

The Pittsburg hill-climbing trials will be held on Sheridan Avenue, between Bond and Wellesley Streets, and the brake tests will be made on Stanton Avenue, at the entrance to Highland Park.

The race meet that was scheduled for the 16th and 17th at Matinee Park has had to be called off because the steamboats running down the river to the Park stop running this week and the steamboat company would not consent to extend their season for the meet.

The national association has secured the services of C. H. Gillette, editor of the *Automobile Blue Book*, as press agent, who will issue a bulletin every evening, giving such facts about the events of the run as will be of general public interest. Mr. Gillette will have two assistants.

Time Class Races Suggested.

Special Correspondence.

Cleveland, Sept. 21.—Since the recent Cleveland and Detroit races, the subject of handling automobile races is the topic of much discussion among enthusiasts. Chairman Pardington, of the A. A. A. Racing Board, is seeking suggestions for the improvement of motor racing, and he received a number of suggestions.

George Collister, of Cleveland, believes that real contests with close finishes cannot be obtained until machines are classified like horses, according to their best records. He would have a free-for-all class, a one-minute class, a 1:05 class, a 1:10 class and other classes five seconds apart down to 1:30 or 1:40. When a car wins a race in faster time than its class, it advances to a faster class. Mr. Collister thinks class racing would prevent runaways like those scored by Oldfield in the races here. Mr. Pardington approved the idea and it seems likely that when the racing rules are changed next winter the plan will receive consideration.

SPECIAL EVENTS AND PRIZES FOR EMPIRE TRACK MEET, OCTOBER 3.

Following immediately the very close race at Providence last Saturday between Henri Page, F. A. La Roche and Charles Schmidt, which was pronounced without doubt the best race of the season, Secretary Reeves, of the Empire City Trotting Club, tried to arrange another triangular race with the same competitors for the Yonkers meet of October 3. Mr. La Roche has already consented to start his Darracq, and it is hoped that the Decauville and "Gray Wolf" can also be secured.

The five-mile open handicap is attracting more than usual attention and the results will be watched with special interest, owing to the novel method which is to be adopted for handicapping. Special entry blanks have been provided for this race, which must be filled out by the contestants, and the information contained therein will be carefully tabulated and used as a basis for figuring the handicap allowances of the competing cars. In addition to details regarding the motors, the handicapping committee requires full information regarding the transmission, the size of the wheels, the make, size and weight of tires, weight of car ready to run, number of passengers to be carried and the style of the body, as well as particulars regarding a number of other details.

Entries for the meet of October 3, which is the third to be held on the Empire City track this season, close with Alfred Reeves, secretary, 5 West 66th Street, N. Y., on Monday, September 28.

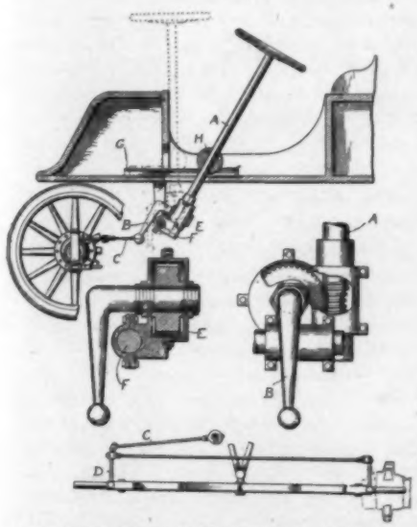
Dr. George Pirtle, of Carlisle, Ind., was recently driving his automobile in that town when a horse belonging to a Mr. Trimble, a local farmer, became frightened and ran away, although it had been tied to a hitching-post. The case was brought before the county squire for trial, who promptly held the indictment valueless as it failed to show that the doctor had been guilty of any negligence while driving his automobile.

Patents

Steering Mechanism.

No. 738,997.—E. Haynes, R. Wiley and H. Murden, of Kokomo, Ind.

The wheel-steering gear of the Haynes-Apperson machines. The steering column *A* carries a worm acting on a worm-wheel so disposed that the arm *B* swings across the vehicle instead of lengthwise of it. A



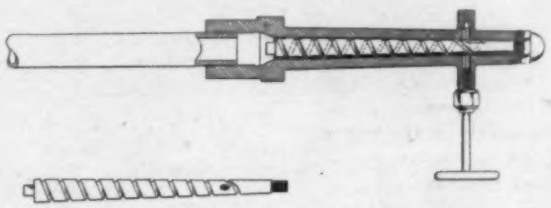
HAYNES-APPERSON STEERING GEAR.

link *C* makes a direct connection between *B* and one of the steering knuckle arms *D*. The worm gear is enclosed in a case *E* which swivels on a short shaft *F* without materially affecting the steering, whatever the position of the steering column, which may be raised vertical as shown in dotted lines. A sliding plate running in angle iron guides *G*, and carrying a ball-shaped trunnion guide *H*, covers the slot in the footboard in which the steering column works.

Vaporizing Nozzle

No. 738,755.—J. E. Bancroft, of Toledo, Ohio.

A vaporizing nozzle constructed as shown, the object being to obtain the maximum length of vaporizing duct in



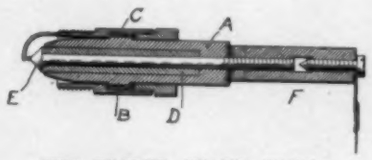
THE BANCROFT VAPORIZING NOZZLE.

the smallest compass, and at the same time to have this duct readily accessible for cleaning. By removing the taper sleeve shown in section the whole spinal duct is opened.

Spark Plug.

No. 738,992.—H. C. Folger, of Somerville, Mass.

A plug designed to protect the porcelain from breakage. The porcelain *A*



THE FOGLER SPARK PLUG.

has the usual shoulder *B*, and is packed in the steel shell *C* with asbestos in the usual way. The inner tube *D* is of mica, preferably rolled and cemented, and it carries the direct pressure of the head *E* of the plug stem. The spark gap device *F* may be added, but is not essential.

Storage Battery Manufacture.

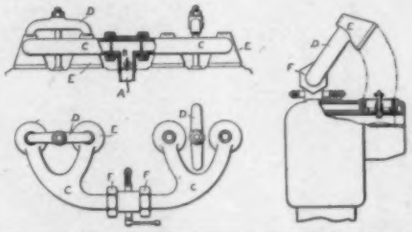
No. 738,427.—O. P. Fritchle, of Denver, Colo.

A further patent issued on the process described in patents 738,313 and 738,314 last week. The claims relate chiefly to the process of cleaning granulated lead in an acid bath and then "welding" it by pressure.

Pipe to Inlet Valves.

No. 738,772.—F. Charron and L. Girardot, of Paris, France.

The arrangement used in the C. G. V. cars. The mixture comes by pipe *A* past throttle valve *B*, and divides into the two



THE CHARRON-GIRARDOT INLET PIPING.

branched pipes *CC*. These are held by the forged yokes *DD*, and the conical bonnet *EE* over the inlet valves are integral with them. By releasing *DD* and slackening the union nuts *FF* they may be lifted to expose the inlet valves as shown.

Steam Generator.

No. 737,727.—H. J. Fisher, of London, England.

A flash generator designed to avoid the defect, ascribed to generators whose coils of pipe are arranged continuously in series, of inability to produce steam in sufficient volume. The inventor overcomes this alleged defect by using a number of vertical tubes connected at their ends to common rings or headers, as in a water-tube boiler, with a shut-off cock at each end of each tube, to cut it out in case it becomes damaged.

Safety Switch for Electric Vehicles.

No. 738,167.—G. H. Day, of Hartford, Conn.

A switch located on or under the footboard, and operating in conjunction with a voluntarily-actuated lock for the brake pedal. This lock, in the shape of a convenient lever adjacent to the pedal, is shifted by the operator to lock the brake, which opens the motor circuit at the switch. This avoids opening the circuit when the brake is applied only momentarily.

Details of "Torpedo Kid."

The Baker "Torpedo Kid" has been repaired after its recent Cleveland accident and it will probably be entered in some more races this fall. Mr. Baker gives this general description of the "Kid":

It weight 640 pounds with the hood or body on, and the body, which is made of wood, weighs about 50 pounds. The wheelbase is 6 feet 6 inches, while the body is 11 feet 6 inches. The motor is a standard Elwell-Parker, of 3-4 horsepower, the same as is used in the Baker runabout. The drive is through a single reduction gear. The controller is the same as that used on the standard runabout. The battery weighs 195 pounds and consists of twelve cells of Gould battery having a capacity of 110 ampere hours. The electrolyte has a very high specific gravity in order to hold up the potential. The wheels are fitted with 2-inch Special Goodrich thread-type tires and drive is by a Whitney chain.

Because of the great torque and the very low power of the motor, it is impossible to make a fast start, but after the little machine gets up to speed, the fact that all friction has been brought down to a minimum through the application of scientific principles renders it very speedy. On trials, Mr. Baker has made quarter miles in seventeen seconds, and he claims that it will go ten miles at a 1:10 gait. The little machine is nearly as fast as the large "Torpedo," which had a 7-horsepower motor and weighed 3,600 pounds.

An automobile livery has been started in Albion, N. Y., and though the company will not open its offices until next March, one of its cars is now in almost constant use. This car has a seating capacity for sixteen, and the rate per hour to parties of twelve or less is $3; if more than twelve are in the party the charge is 25 cents for each.

The Editorial Condenser.

Senator Foraker, of Ohio, has been touring in the East in his automobile.

Seven automobiles were counted among the vehicles in a funeral procession in Denver recently.

An automobile garage and repair shop is to be opened on the Prado, Havana, Cuba, in the near future.

The Niagara Motor Car Co. has opened a storage and repair station at 326 Main Street, Niagara Falls, N. Y.

San Antonio, Texas, is to have an international fair this fall, a feature of which will be a series of automobile races.

Joseph Palmer, of Boston, Mass., maker of carriage springs for the past twenty-eight years, is now making a specialty of all kinds of springs for motor vehicle use.

The Christian Schmidt & Sons Brewing Co., of Philadelphia, has ordered fifteen electric trucks for use in its business, each truck to cost $4,300. The first five trucks are to be delivered in January, five more in February and five in March.

Automobiles were so much in evidence at the State Fair at Lewiston, Me., during the first week of September, that the management has decided that the motor cars shall be properly represented at next year's fair and a program of races will be a feature.

The Stoltenburg & Reimers Co. has been incorporated in Davenport, Iowa, to manufacture, sell and repair automobiles. Officers have been elected as follows: President, Henry Stoltenburg; vice-president and secretary, John Reimers. The capital stock is $5,000.

Peter Gendron, M. Stone and Mrs. and Miss Peckham, all of Toledo, O., were at the Genesee House, in Buffalo, a few days ago, having driven from their home city in a touring car and a light runabout. The party made a run to Niagara Falls before returning home.

F. C. Riggs, manager for W. E. Metzger, left Detroit last Thursday for a run to Chicago and was to report progress while on the road. Only one report was received and that was when about seventy miles had been covered. Mr. Riggs was then considering the trading of his auto for a boat.

The Buffalo Automobile Racing Association has asked the American Automobile Association for the dates of October 9 and 10 for an automobile race meeting to be held on the Kenilworth track, Buffalo. The dates mentioned are those on which it is expected the competitors in the endurance run from New York to Pittsburg will be in Buffalo. Handsome prizes will be offered.

Richard Morrow and daughter, of Waukegan, Wis., recently completed a 1,000-mile automobile trip to Steubenville, Ohio. The return trip of 600 miles was made in four days.

The George N. Pierce Co., Hanover Street, Buffalo, has filed formal notice in the County Clerk's Office that it has decided to increase the capital stock of the company from $280,000, to $315,000. It is said the company will also enlarge its plant.

C. M. Rogers, of Ravenna, O., who is promoting trotting races in connection with the Ravenna fair to be held October 20 to 23, is arranging to devote one day to automobile races. Liberal prizes will be offered and an effort will be made to secure the attendance of some of the best drivers in that section.

The New York Edison Co. is soon to erect an automobile charging station in that section of New York known as the Bronx. Plans for the building have been prepared and approved and work on the structure is to be begun at once. The selected site is on the west side of Ryder Avenue, just below 144th Street.

The New York Garage Company was incorporated in New Jersey on September 18. The objects of the company are to build and sell automobiles. The incorporators are Jas. B. Richardson, Walter H. Bond, and Gardner W. Kimball, all of East Orange, where the principal office of the company is to be located, at 525 Main Street.

At a special meeting on September 6 of the South Park commissioners of the city of Chicago, it was voted to purchase an automobile for the use of the commissioners. The news was heard along Wabash Avenue, the automobile center of the city, with intense satisfaction. It is expected that a large car costing not less than $2,000 will be selected.

The Country Club of Buffalo has put an automobile lawn mower at work on its grounds. It is a steam machine and looks like a cross between a fire engine and a mud turtle. When it is in operation it sings a subdued and mournful song, but it works at a merry clip and will cut a wide swath and leave the lawn nicely rolled into the bargain.

President Hurlburt W. Smith, of the New York State Association of Automobile Clubs, has named the following as a committee to draw up a constitution and to complete the organization: Chairman, W. H. Hotchkiss, Buffalo; A. R. Pardington, Long Island Automobile Club; Lee Richmond, Rochester; Albert J. Baechle, Utica; C. M. Page, Albany, and W. F. Waite, Auburn.

The Motor Car Supply Co., 1427 Michigan Avenue, Chicago, Ill., has recently increased its floor space greatly to properly take care of increasing business.

The D. M. Tuttle Company, of Baldwinsville, N. Y., was recently incorporated with $60,000 capital, to manufacture petroleum engines, power boats and automobiles. The directors are Daniel M. Tuttle, W. H. Lindly and Frank Bell, of Canastota, and James F. Williams and Hiram Howard, of Baldwinsville.

Considerable local interest is being taken in the little match race to be run in the Grosse Pointe track September 26 between Edward Walker's Haynes-Apperson 12-horsepower and Joe Pingree's White steam car. This race is to settle a dispute resulting from the Detroit Owners' Handicap run September 8, in which the Haynes-Apperson car was withdrawn. Mr. Walker bets $100 against $75 that his car will win the five-mile event.

Charles B. Shanks, accompanied by Mrs. Shanks, left Cleveland last Saturday for a trip to extend over several weeks. The itinerary includes Chicago, Kansas City, Omaha, Salt Lake City, Seattle, Ogden, San Francisco, San José, Los Angeles, Denver, St. Louis, and Cincinnati. Mr. Shanks will discuss matters relative to next season's business with agents in the larger cities, and it is hoped that Mrs. Shanks' health will be improved by the trip.

The chief of the Youngstown, Ohio, fire department has been advised by members of the local board of public safety that if he makes a formal application for an automobile to be used in place of his official horse-drawn conveyance, such application will be honored. It is understood that Chief Wallace is anxious to have an automobile for the use of the fire department and it is expected that formal application will soon be made to the board.

An automobile boulevard is to be constructed from Colorado Springs to Palmer Lake. It is estimated that the road will cost $1,500 to $2,000 a mile. The distance between the two points is forty miles. The Colorado State Legislature will be asked to appropriate 60 per cent. of the cost of the road, while the various counties and cities through which it passes will be expected to pay the balance. Later the road will be continued from Palmer Lake to Denver.

The Columbia Engineering Works, of Brooklyn, N. Y., recently sent its demonstration six-ton capacity steam truck with a load to Plainfield, N. J., a distance of more than thirty miles each way on the roads traveled. The company expects the truck to make the trip in eight hours and on a consumption of about ninety cents' worth of coal. The trips are being made to show the feasibility of using self-propelled trucks on runs in the country and their economy over horse-truck service.